The Builder.

No. CCCXCIX.

SATURDAY, SEPTEMBER 28, 1850.

SURELY we are a most unfortunate people in regard to our public works and buildings. No matter what the purpose or the design; no sooner is it proposed to rear an edifice for the accommodation of the public, the convenience of the state, or the dignity and comfort of the Sovereign, than a thousand querulous pens are instantly called into requisition to thwart and hinder its accomplishment; too often, alas! on good grounds; but as often not.

All idea of national sentiment and the credit of the country seems utterly lost in the desire to confound and perplex the plans of those who are called upon by their official position to take the initiative or carry into ultimate effect the desired object. First comes the wrangling over the estimates; which generally ends, as in the well-known examples of Buckingham Palace and the National Gallery, in their being cut down to such an extent as to preclude all adequate grandeur of thought and conception relative to the purpose intended.

The question sought to be solved is not what extent of pecuniary means is requisite to carry into complete effect a design which shall be advantageous to the public and an honour to the country to all future time; but, how much can the minister contrive, by the utmost diligence of the whipper-in, and the support of the favourable portion of the press, to persuade a feeble majority to assist him in obtaining. But suppose, after much painstaking and interest on the part of the public, as in the case of the new Houses of Parliament, a design generally approved be in the first instance obtained; the quarrel then becomes not less fierce over the necessary adjuncts of its completion.

A bad commercial year intervenes, a cry for the curtailment of expenses becomes universal, the required amount is consequently reduced, and some of the chief characteristics and features of the original design are either altogether omitted, or so altered, as to destroy the general effect of the whole. By and by, after years of delay, the costly structure is at length finished; but the circumstances which led to its defect or deformity are either unknown or wholly forgotten; and the thoughtless or ignorant portion of the public, seeing only the result, abuse the architect, and growl and grumble over their bad buildings, as well they may. Thus it is, that other nations less wealthy and less free than ourselves, and whose institutions are less consolidated than our own, nevertheless, through the influence of public spirit, and a superior love and cultivation of the arts, contrive immeasurably to surpass us in those public works and exhibitions which serve to dignify and adorn their country.

We are now in the heat of a social war about the planting and laying out of an acre of ground in front of that luckless and ugly residence of the sovereigns of England, which, for the last thirty years, has served the public and the press with an endless theme of vituperation and invective.

The opponents have succeeded in reducing the estimates for the proposed alteration from 26,000*l.* to 11,000*l.*! Oh, mighty triumph of economical legislation, which will probably secure us at least the consistency of bad approaches to a bad façade.

If the design itself be unsuitable, it should not be persevered in, but delayed till a better can be prepared; but if the plan be good, to leave a building incomplete for such a consideration, after the sums already expended, seems the height of folly.

With regard to the marble arch, the most feasible plan seems to be to make it an entrance to the park from Trafalgar-square. But then comes again the question of economy—that ever easy theme of palatable declamation. So that for all time to come this costly structure is to be placed in some inferior situation, because a country, whose revenue is fifty millions, cannot afford to place it on an appropriate site. Better, then, break it up at once, sell the materials for what they will fetch, and apply the proceeds to complete some one thing decently.

There is a certain description of the public expenditure which it is unwise in a nation too closely to curtail.

Buildings that are designed for the public benefit, and calculated to be of a permanent and enduring character, ought to be so distinguished by their construction and appearance, as of themselves to excite interest and command general respect. To deprive them of this is to lessen both their useful influence on the growing mind of the country, and the value of the institutions they represent in the public eye. For a State, while surrounded on every hand with evidences of private wealth and grandeur, to be parsimonious in providing the external symbols of its importance, is to lessen its value in the general esteem. These, as their objects are permanent, so to speak, constitute the assets of the nation. They are not personal, either to the Sovereign or the officers of state, but they are the property of the public, and have effect on the public, and as such should be made to contribute to its glory and renown. The expense connected with such important objects is comparative only. When once incurred, it serves its purpose for ever, and constitutes a perpetual memorial to the honour and patriotism of the country. It would be as well, perhaps, if our economists would sometimes consider that public money so expended bears its own interest, as well in the convenience it affords to posterity as in the benefit it confers upon the present generation. Unlike annual grants to individuals, which, however deservedly conferred, or worthily distributed, leave not a fragment to tell to future times the munificent liberality of those who bestowed them; our public edifices, while they serve to encourage the arts, to elevate the character of the people, and to give employment and support to thousands of honest and industrious artisans and handicraftsmen, serve also as enduring monuments to the taste and genius and honour of the present age.

THE GIGANTIC STATUE OF BAVARIA.—This long talked of statue is now placed on the hill of Saint Theresa, near Munich. The bronze of the statue has cost 92,600fl. or 234,080f. It has taken eight years to cast, and is to be inaugurated on the return of King Louis to Munich.

THE KINGSTON KINGS' STONE.

THE inhabitants of Kingston-upon-Thames have done a creditable thing. They have rescued the old stone on which tradition says the Saxon Kings crowned here were placed, from the obscurity and degradation into which it had fallen, and have set it up with all honour upon a pedestal near Clattern Bridge, with an inclosure about it of stone and iron. In the autumn of last year, when called in professionally to advise as to the state of Kingston church, we referred to the connection of the town with our early kings, and suggested to two or three persons that the stone to which tradition had always pointed should be preserved.* Whatever can suggest a history or inspire a worthy sentiment is deserving of care. We went no farther, however, and the matter dropped. It was left for Mr. H. H. Young, of Leamington, to suggest to members of the corporation the propriety of forming it into a monument. Mr. Shrubsole, Mr. Ranyard, Mr. Gould, Mr. Pamphilon (the present mayor), and others took it up, and on the 19th of this month the result of their conjoined exertions was opened to the public, when there were a breakfast and varied rejoicings. Three poetical *à propos* effusions were printed and circulated, and a well-executed medal by Mr. W. J. Taylor, of London, was struck on the occasion.

The stone (which is said to be similar in mineralogical character to those forming Stonehenge) is about 3 feet 6 inches in height and 22 inches wide. The end of it has been let into a heptagonal pedestal of Bath stone inscribed on the several sides, "Eadward, 901," "Adelztan, 924," "Eadmund, 943," "Eadred, 946," "Eadwin, 955," "Eadwerd, 975," and "Ædelred, 978." In each face of the stone, above the name, a coin of the respective king is inserted.† The inclosure consists of *seven* small pillars of Purbeck marble, with Bath stone caps and bases, connected by a cast-iron railing of interlaced arches, *seven* in each space. The caps are Saxon*ishly* sculptured, and have conical terminations, each surmounted by a large iron spear-head, which may as well be removed, since, if not previously broken off or stolen, which seems likely, they will, in time, damage the caps.

The arrangement was designed by Mr. Davis, of Bath. The cost of the work, we understand, will be about 140*l.*: 50*l.* were given by the corporation, and the committee made themselves liable for the remainder, to be raised by subscription.

Improvement of the town may be expected to result, from the setting up of this memento of a time when it was called *Kyningestun, famosa illa locus.*

We will end our notice with some lines which were written for the occasion by Mr. Martin Tupper:—

Rejoice! that Praise and Honour at length
Return to their ancient rest,—
As a wounded eagle gathers his strength
To recover his rock-built nest;
For of old, around yon ragged throne
Tradition tenderly clings,
To hail that stone, as its brother of Scone,
The Throne of the Seven Kings!

EDWARD THE ELDER there was crown'd,
Great ALFRED'S glorious son;—
And ATHELSTAN, thro' the wide world renown'd
For merchant-trophies won,—
EDMUND, and ETHELRED, in high state,
With ELDRED, and EDWY THE FAIR,
And EDWARD, due to a MARTYR'S fate,
Were throned in honour there!

Thou then, such ancestry's Royal seed,
Britannia's Heiress-Queen!
In grace consider the loyal deed
Thy Saxon children mean.
To the time-hallowed Past its homage due
The Present wisely brings,
And thus would we pour our chrism anew
On the Throne of the Seven Kings!

BELGIAN TILES AND BRICKS.—Some large importations of roofing tiles and bricks are taking place at the present time from Antwerp, the manufacture of Belgium.

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* See page 268 of present volume.

† The coins were presented by Mr. Walter Hawkins and Mr. Cuff. Mr. Hawkins also presented a book to each of the 700 children in the Kingston schools.

ON LINEAL EXPRESSION AND ARCHITECTURAL DESIGN.*

CONSTRUCTION.

SUBSTANCES of various kinds are the architect's means of producing the form, shadow, and ornament before treated of, and it is certain that the nature of each substance, be it stone, brick, wood, mud, or iron, is adapted for a different system of putting together, varying as the substance varies in size or strength, ductility or roughness; and that these qualities ought to determine the nature of the construction, and be the fundamental cause of any appearance, and consequently of any idea such appearance or style may present to the mind. Construction is the essential foundation of true art, and to make a skeleton within which the external form hides and does not express, is an architectural hypocrisy, which can only please until it is discovered, and is a disgrace to the designer so long as it stands. There are what may be called the enigmas or curiosities of construction, which are harmless when merely meant as tricks and not hidden,—as, for instance, the entrance-door to Fiesole Cathedral; but as a system, false construction is an unbearable and ignoble imposition—the unenviable distinction of modern times.

Of all the glorious styles of the past, what one can be named which originated or was perfected in deceit? What one can be named which does not derive its general character and merit from its true construction?

If we turn to the Grecian buildings, and the earlier examples of Roman architecture, we find that the construction is what it appears to be, and is the basis of their style, differing in character according as the size of the material differed. In all simple repose is the system of construction, and in all there is a generic likeness.

Directly the arch was introduced in Rome, it was shown without reserve, and is the great feature which marks a change of style.

In Romanesque and Norman architecture the semi-circular arch is the primary feature of their construction and character, and it is this which renders the cinque-cento and Roman arched work so capable of amalgamation with them, as may be more particularly seen at St. Mark's, Venice, the Cathedral, Siena, and at the Porte Noire, Besançon, and the Porta dei Borsari, Verona. In Gothic, the pointed arch or equilibration is the glory of its constructive power, and the exponent of one fundamental character, however varied, in all its phases. The horseshoe arch is the foundation of Moorish construction, and enters even into the character of the very ornament. The palaces of Tuscany, the half-timber edifices of Europe, and modern engineering works, are likewise fine examples of character founded on construction, and the more these are anatomised, the more is reason satisfied of the effect being founded on the actual cause.

As a progress in construction occurred, a change in character occurred; and in none of the recognised styles before the 15th century do we find the actual construction hid or falsified in order to retain the appearance of a past system, and consequently there is always a progression to something new.

Now let us turn to modern Europe, more especially England, and analyse a few of its largest buildings. Let us strip them of their ashlar work, clamped on to the true skeleton, and what do we find? Arches of every size in every direction. It is most true, we have been grossly deceived: there are seldom fine blocks of stone like those of Greece and Rome. No simple unscientific repose; but a work of much scientific and ingenious contrivance. This may be very clever and curious; but it is essentially a vicious and inexcusable system. Is the arch an unsightly invention that we should seek to hide it? Is the nobler work to be covered that the inferior work may be seen? It is unreasonable and absurd; yet such is the case with many of the largest buildings in England, which are the product of a system fundamentally false. It is the same in Gothic and many other revivals of the day: the peculiar features arising from a necessary method of construction are still retained, without the construction which produced them.

The commencement of this dates back some 250 years. It was the revival of the antique which produced it, and it reckons among its first adopters the justly-celebrated name of Palladio. The same blind passion for an imitation of antiquity, at the cost of reason and sense, then began, and now more glaringly and grossly continues a system, which, having no foundation on truth, must in time fall. What is past, is past: let us only act up to the principle of true construction—let us only allow, as every ingenuous mind must, that everything founded on deceit is unstable and vitally wrong, and we shall, by a little trouble, thought, and experience, rid ourselves of a disgrace, and lay the groundwork of new and better things. For we may be sure that the more Science advances the more Art advances; new forms require new developments, and original construction requires original Art to aid it. Had Sir C. Wren kept to the old Italian system of construction, we should have no such treasures as Bow and St. Bride's; his knowledge of construction was the foundation of his originality; and, as regards the method of discovering original construction, it is not amiss to use the very words of this great, venerable, and virtuous man:—

"Nature in the best of her works is apparent enough in obvious things, were they but curiously observed, and the key that opens treasures is often plain and rusty, but unless it be gilt it makes no show at court;" which sentence would seem to imply that to nature we must turn for hints and new ideas in construction and science generally, and that it is the province of Art so to beautify them as to render them fit for public show.

Can there be any doubt that the invention of the pointed arch and groined roof not only gave us the flying buttresses and pinnacles, but that the style thus produced, evoked also a new style of ornament with it, and that the primary feature of the pointed arch is the soul, the vivifier of the whole system? and it is curious to remark that the pointed Bowtell moulding came into use simultaneously with the pointed arch.

As regards our own country we need only cast our eyes around to know that brick is the principal building material, not only plain and plastered, but even where stone is the apparent material. Where stone is used alone it is generally of small size. Rubble work and flint are not unusual. Now it is evident that the method of spanning any ordinary voids with such materials, is by arching, and this, in fact, is the plan pursued in the great mass of buildings, including that bungling method called the straight arch. The power such forms have of producing ornament, has been strangely neglected, and the poor and pitiful custom of hiding the agreeable radiating joints of the work by some meagre mouldings or architrave stuck on in compo, forms the usual sum total of invention. Yet they afford excellent scope for ornament in themselves, and combine well with a variety of other forms which may be designed around them.

It is not so much, however, in domestic architecture the arch is to be advocated,—it exists and wants only taste and attention to render it ornamental; but it is seriously to be considered whether it should not be the grand and primary feature of the noblest works architecture can produce;—whether all the styles of the past, unfitted to the habits of the day, foreign to us, and requiring deceit and unnecessary expense to produce them, should not give way to true construction, to the noble and calm grandeur of the semicircular arch, giving it that first place which it deserves, and which it is pre-eminently fitted to retain, and which, appreciating the value of varied mouldings, and the friendliness of shadow, would, in a short time, bring forth a corresponding style of ornament, neither so monotonous as classic, nor so grotesque as Gothic.

That such a style will partake much of Romanesque, or Norman, character, is doubtless; and, indeed, founded in a great measure on the same principle, will yet carry out in a more perfectly scientific and artistic manner, what in them we can only consider as the commencement of a grand system.

May the arch then be the foundation of our triumph, and nature, ever varied and charming, with her leaves and flowers, her treasures, animate and inanimate, our encyclopædia of ornament!

It would be impossible, by writing, to give any detailed account of the parts which form any style, and one can merely point out those more striking features which are to be avoided or sought. Every component part of architecture forming a feature or subject by itself, should consist of three divisions: base, body, and capping. We see this in dados, columns, entablatures, and the building itself. The same should hold good in string-courses and balconies, and in any ornamental feature consisting of the ornamental part as principal, a projection to protect it, in a measure, and a band to carry it off into the wall. In walls too much attention cannot be paid to the base: it is a feature generally much neglected: its general character should be firm, bold, and striking. In many of the Venetian palaces it forms a very remarkable feature; in Gothic architecture, also, its value is well understood. The Strozzi Palace exhibits the effect of its deficiency. Above all things, a diminished column, any one of the orders supporting an arch, except on a small scale, is to be avoided. This, with the superimposed impost, is the great drawback to Brunelleschi's architecture at San Lorenzo and Santo Spirito, Florence. The same may be seen at the Town Hall, Lucca, and its contrast at the Town Hall, Sienna, and more signally at the cathedral porch, Lucca. At San Frediano, Lucca, the effect of the arches resting on single columns is that of a crushing weight on an inadequate support; the same at Pisa Cathedral; and the simplest contrast in the round undiminished column may be seen in most early Norman churches, Orvieto Cathedral, and the church of the Frari, Venice.

The column as designed by the Greeks was for quite another purpose, and never can be justly used for this as it stands; even a single undiminished column, though better, is not enough. We shall require rather piers than columns,—more approaching to the piers of the Loggia dei Lanzi, Florence, and the piers of Cremona, Parma, and Sienna cathedrals.

Pilasters are equally to be shunned, as indefinite in character and affording no scope for original embellishment; they are neither truly ornamental nor useful, as generally applied, yet something of the same nature, more of a moulded buttress and with more capital, would be highly effective. Nothing is so poor and unmeaning as a single angle pilaster, but its constant introduction shows the perception that something is wanted, and one might well receive hints from the rusticated angles of Roman palaces, most examples of Gothic art, and some of the Tuscan palaces.

Apparent weakness is to be decidedly avoided, however strong the reality may be. An arch containing two smaller arches, with no central support—a series of projecting arches in the same way, to form pulpit or balcony—the old form of projecting sounding boards—coved galleries without bracketed supports—and the projecting eaves of railway architecture, are all in bad taste; for strength, apparent strength, is the first demand of the spectator.

Walls may be in many cases strengthened by the introduction of circular work, filled up or not as fitness dictates: between arches of any size it should always be used, and may be made very ornamental: besides relieving the lateral thrust, care should be taken always to show the radiating points.

The introduction of iron and glass will also materially affect the design; but these, as being secondary means of construction, should be adapted to the character of the whole building. In fine, whatever system of construction is adopted — equilibrium, arch, corbelling, or simple repose—it should form the key-note, to which all the other parts of the building—proportion, form, shadow, and ornament, should harmonise.

MOULDINGS.

There are two principles diametrically opposed for the appliance of mouldings, viz. projection and recession. Classical architecture shows the first, Gothic and Norman have adopted the last, and in many cases combine both; this is as regards their relation to the face of wall. Again, the Southerns and their followers have designed their mouldings for the sake of light, the Northerns for the sake of shadow; this is as regards their actual forms. The reason why the Northerns did this would

* See p. 435, *ante*.

appear to be on account, in the first case, of the inclemency of the climate, its destroying effect on any ornament too exposed to it; and, in the second case, from the fact that light is not favourable with us to the production of effect, or the expression of delicate outlines. The principle in both respects as practised by our forefathers seems to be correct, because adapted to produce the best effect, and the surest protection; but as the thickness of modern walls does not often admit of the same depth of recession, it may be necessary to practise it always in conjunction with the Southern principle. Be this as it may, we may be sure that nothing is more important than the study of mouldings. But this study, so insisted on by all, is not what is usually meant, viz. the production of a more *beautiful* example from a known model, not the making a cyma more delicately exquisite in outline than any known, but the study which shall give to each individual member the tone of the intended expression, both in outline and shadow; for it is necessary that we should be impressed with the fact, that even the most simple forms convey an expression of some definite character to the imagination. The nature of this difference was shown before, in the three cyma rectas, and the nice perception of this difference is always a great merit in the artist. The effect of a building greatly depends on the fitness of these outlines in form and shadow for the development of its character, and they demand the most careful attention: those which project should be more studied in their outline, and those which recede, in their shadow. The number of classic mouldings is certainly insufficient for the multifarious ends to which mouldings must serve, and to the important place they hold in architectural effect as shown by Northern buildings; but an excessive use of them is destructive of that breadth of form and shadow which public buildings should possess, for they cut up and render little the largest masses, as may be seen in the decline of Gothic art, of which this custom is one of the surest symptoms. The almost sole attention given to the production of shadow in Gothic mouldings renders them unsatisfactory to the admirers of form; indeed, their outlines are often positively ugly: from them we may learn that mouldings of more than two curves are to be avoided, for a third curve weakens the idea of strength, and to gain this a fillet is necessary. The *idea* of a continuous number of curves in a classic cornice is evident, but this continuity is rendered agreeable by the fillets which separate them individually, or, to use a better expression, bind them together and give them that feeling of strength which architecture, from its great necessary admixture of right lines, is calculated to express. The horizontal direction of mouldings as predominant can only be proper where simple repose is the principle of construction; for it is this (the means of construction) which justly receives that decoration and placing forward to which it is entitled. In no case is this more clearly and beautifully followed out than in Greek architecture; nothing can be more simple; the cornice, the frieze, and architrave are here formed on the actual construction, and the supporting columns are particularly studied; but with all its merit how unsatisfactory in this respect is the Basilica of Vicenza, which, over the arched system of construction, has another system antagonistical in the necessary direction of its mouldings, and which renders it difficult to say which lines predominate. The arch here is the great feature of its effect, and the disagreement of horizontal lines with it is seen by the depressing appearance of the comparatively heavy entablature which surmounts it. This building is perhaps the most wonderful and beautiful combination of two most opposite principles which study and genius could devise, and yet, I think shows that where the arch is used, the lines which best assimilate with it are the vertical. This is a most important question, for the congruity of character gained by the direction of lines in connection with the construction is incontestible, and for the production of excellence one system must predominate.

In all mouldings which project, where the character by means of form is sought, no better example than Palladio can be chosen, especially in the Basilica, which, rich as is its general character, has not one moulding ornamented; but for mouldings which recede, and which depend on shadow principally for their power, ornament may be justly applied, and there should be many projecting points to catch the reflected light, and define more clearly their outlines. Not that the projecting are never to receive ornament, but that the receding ones should receive more. Opposition of form in mouldings is very agreeable to the eye; and increased value is given to the general outline, as seen in the curve of the Corinthian abacus against the straight line of architrave. The importance of this opposition of form is well known to painters, and is one of their rules of composition.

J. B. W.

THE FIRE IN MARK-LANE.

AN enormous gap has been made by the fire which occurred last week in Mark-lane, in the city. It extends from Mark-lane to Seething-lane, and presents a scene of ruin looked, down upon from some of the neighbouring houses, which serves to give an idea of that "5th Sept. 1666," when Pepys, who lived in this very Seething-lane, wrote, "about two in the morning my wife calls me up and tells me of new cries of fire, it being come to Barking-church, which is at the bottom of our lane."

The Corn Market, rebuilt by Mr. George Smith in 1828, had a narrow escape of entire destruction.*

The whole of this neighbourhood is deeply interesting, looked at with knowledge. In this Seething-lane, first Sidon-lane, according to Stow, and then Sything-lane, the old Navy-office stood. According to the *Audit-office Enrolments*, quoted in Cunningham's "Handbook," on the 17th of July, 1788, "Sir Wm. Chambers, the architect, received the sum of 11,500*l.* being the purchase money agreed with the Lords Commissioners of his Majesty's Treasury for the premises where the late Navy-office stood."

THE ORTHOGONAL SYSTEM OF HAND-RAILING.

THE construction of hand-rails is a difficult part of the joiner's business, and requires for the attainment of proficiency in it intelligence and application. A good staircase-hand is an artizan of no ordinary merit, and ought to have a better standing in the opinion of the multitude than he at present holds,—and we might say the same of many other artizans. Compare some of whom we are speaking with half the small shopkeepers of the metropolis as to skill and knowledge, and the advantage will be found greatly on the side of the artizan. It can scarcely be denied that artizans as a class have suffered from the irregularities of individuals of their body. If every man would remember that ill conduct on his part injures beyond himself, and also, on the other hand, that he has power individually to aid in raising his class, the result could scarcely fail to be satisfactory. The great body of skilled English artizans are a credit to the country, and deserve high praise.

We must keep hold, however, of the hand-rail. The heading of this article is the title of a little book, setting forth a mode of constructing hand-railing, for which the Society of Arts awarded a medal to its author, Joshua Jeays.† The *least* that can be said in favour of the work is, that it sets forth in black and white, for the first time, what many old hands have already found out for themselves.

We will let the writer speak for himself, and explain the *theory of the orthogonal face-mould.* "In preceding examples are shown methods of obtaining the section of a cylinder, and the application of it to the construction of the common face-mould of a hand-rail. The orthogonal face-mould, the nature of which we shall now explain, is employed merely for the purpose of determining the form of the least solid that is capable of containing within it the square wreath. The common face-mould was originally the only one employed in the process of cutting out the wreath, but the solid cut out to the form of the common face-mould contains a greater quantity of material than is required in the formation of the wreath. The difficulty of applying the common face-mould to the plank, and the impossibility of ascertaining what part of the plank the wreath will require from the mere position of the face-mould, render it necessary that some other method should be employed.

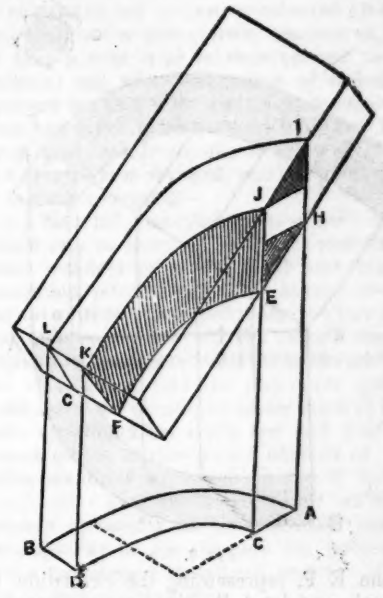


FIG. 1.

In figure 1, is shown the outlines of a plank with the oblique solid required by the use of the common face-mould drawn within it. A B C D is the plan of a quadrant of a wreath, and E F L I is the oblique solid required. It will be seen that in cutting out this solid the saw must be held in a position parallel to the vertical side E K F J of the solid; the consequence of this is, that in some cases the saw cut is of great depth. The consequent amount of labour required in cutting out the solid will of course be proportionably increased with the depth of the cut, or with the length of the vertical line E J.

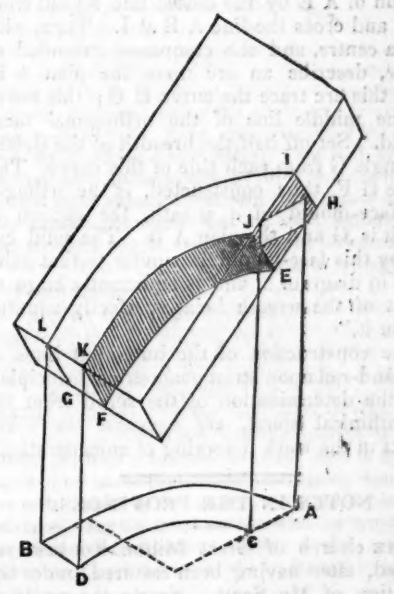


FIG. 2.

A rectangular solid may be cut out of the plank that will contain the square wreath as perfectly as the oblique solid shown in fig. 1. The accompanying diagram exhibits a solid of this description, with the end of the square wreath J H shown within it. In cutting out this solid, the saw is held perpendicularly to the surface of the plank.

The advantages of the above, over the old method of cutting out the wreath, will be at once acknowledged when it is considered that the workman can, without hesitation, mark the whole of his wreaths upon the plank, and can truly estimate the quantity of material required to complete his hand-rail before he commences, which by the use of the common face-mould would have been impossible.

The method of constructing the orthogonal

* According to the newspapers, a tablet has been discovered since our visit, having inscribed thereon the following—"This was rebuilt in 1792. The foundation or 'base courts,' are the remains of the original palace where the City standard of weights and measures was formerly kept, and designated, in Saxon phraseology, 'Assay Thing Court,' the entrance to which was in, as is now called, 'Seething-lane.'"

† The Orthogonal System of Hand-railing, with practical Illustrations of the Construction of Stairs. By Joshua Jeays. London, Simpkin, Marshall, and Co. 1850.

face-mould, which is not elliptical, and cannot therefore be formed directly from the plan, will now be explained. It may be observed, that the sides of the solid H G K J, fig. 2, unlike the sides of the solid in fig. 1, do not lie vertically over the plan A B C D, but merely contain the solid, from which the wreath can be formed. The face-mould of this solid may be constructed as follows:—Referring to a former diagram, let the triangle A K C be represented by the triangle A E F of the annexed figure,

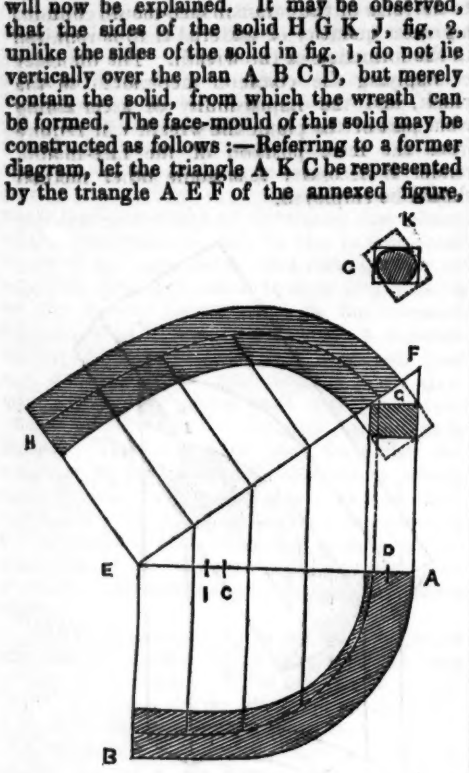


FIG. 3.

the line E F, representing the inclination of the plank, and let A B represent the plan of a wreath, the circular parts of which are described from the centre C. Upon the line A F draw a rectangular section of the square wreath, as is shown by the shaded part G. Draw the dotted rectangle G, containing the shaded section; this rectangle will be of the same size as the transverse section of a rectangular solid that will contain the square wreath. From the middle of that side of the dotted rectangle that lies in the line E F let fall a perpendicular line upon A E, and from D, the middle point of the breadth of the plan, extend the compasses to the centre C. Remove the compasses along the line A E until the point that was at D reaches the point of intersection of A E by the dotted line let fall from E F, and cross the line A E at I. Then, with I as a centre, and the compasses extended as above, describe an arc upon the plan A B, from this arc trace the curve H G; this curve is the middle line of the orthogonal face-mould. Set off half the breadth of the dotted rectangle G from each side of this curve. The figure H F, thus constructed, is the orthogonal face-mould of a wreath, the section of which is G and the plan A B. The solid cut out by this face-mould is similar to that exhibited in diagram 2, and is sufficiently large to admit of the wreath being perfectly squared within it."

The construction of the butt-joint lines of the hand-rail upon strict geometrical principles, and the determination of the scroll from the logarithmical spiral, are amongst the other points in the work deserving of consideration.

NOTES IN THE PROVINCES.

THE church of Great Milton has been reopened, after having been restored under the direction of Mr. Scott. Nearly the whole of the chancel has been taken down and rebuilt, the roof rebeamed, and new stonework erected on the tower-turret. The old pews have been replaced by low open seats. In the chancel are now seen the sedilia, piscina, and a small earthenware oven, built in the north wall, and supposed to have been used in baking the eucharist wafer. Mr. G. Wyatt, of Oxford, builder, carried out the restorations.——A subterranean passage has been discovered at Colchester Castle. It has been explored only to a certain extent, and has been found to run throughout the whole length of the castle, with a width of about 20 feet. Some old Roman remains have also been discovered at the castle.——The consumption of gas is on the increase at Chelmsford, where a new gashouse has been erected, 64 feet long by 44 feet wide, and 30 feet to the roof, which is of wrought-iron. The house contains space for forty retorts, five of which are now in constant and five in occasional operation. The old gashouse adjacent is to be converted into a coal depot.——The Ipswich Gas Company has announced a reduction from 6s. to 5s. a thousand feet.——The keystone of the new bridge at March was laid on Wednesday in last week.——The old Town-hall of Leighton Buzzard has been removed, and the first stone of a new one was laid on the same site on Monday in the week before last. It will be a brick structure, 68 feet long by 20 feet 8 inches wide. The ground-floor will be arranged for stalls, over which there will be a room the entire length of the building, 18 feet between the floor and ceiling, and fitted up for public meetings, with a moveable partition for one of smaller dimensions for manor courts and other purposes. The expense will be borne by Lord Leigh, the lord of the manor.——St. Thomas's Church, Portsmouth, has been decorated and fitted up with gas.——The old church at Cowes has been repaired, altered, and redecorated under the joint superintendence of Mr. G. Marvin and Mr. G. Wheeler.——A bronze figure of the late Sir C. Morgan has just been erected in the small square in front of the Tredegar Estate Offices, Newport, Wales. The design was furnished by Mr. Evan Thomas. The figure is placed on a pedestal of Aberdeen granite, which bears suitable inscriptions in English and Welsh.——A scheme is said to be in progress to raise a fund for ten new churches and school-houses in the mining districts of Merthyr and South Wales.——On Monday week a new Catholic cemetery was consecrated at Birmingham. The ground is in the suburbs, and is to be ornamentally laid out. A parish church is to be here erected in the Gothic style. The chancel and Lady Chapel are already built, and will be used for the present by the officiating priest until the building is completed. The entire cost will be about 7,000*l*.——A public building is to be erected in Broad-street, Birmingham, for exhibitions, equestrian performances, and other purposes of a similar nature. The building will also be available for the annual cattle show. Messrs. Branson and Gwyther are the contractors, and a plan has been prepared by them and approved by Mr. Hemming, the architect, on the part of the promoters. Considerable progress has already been made; and the contractors have undertaken to complete the building in time for the approaching cattle show.——The foundation stone of a building to be called the Church of the Holy Apostles, now in course of erection in upper Victoria-street, Sheffield, was laid on Tuesday week. It will be a Gothic building with a tower and spire. Mr. Stephenson, of London, is the architect. The church is intended to be opened next Easter.——On Saturday last great part of a grinding mill at Sheffield fell while the hands were at work. The building was three stories high, and the part which fell consists of three rooms, measuring about 50 feet by 24. Several men were involved in the ruins, but none of them were killed on the spot. Nothing is said as to the cause.——Since the reduction of the price of gas at Rochdale, from 7s. in 1848, to 6s. in 1849, and 5s. in 1850, the concern has not only become "a profitable undertaking," but "a huge new gasometer tank," has just been completed, with the view of enabling the gas committee to meet the increasing demand.——The Newcastle baths and washhouses are, it seems, in so prosperous a state, that the committee propose to erect a second establishment.——A large building for a Surgical Hospital, in addition to the Infirmary, is to be erected at Edinburgh, on a site between the old High School and the Infirmary.——The authorities of Edinburgh have purchased an extensive area at Lochrin as the site of intended abattoirs. The buildings are to have an ornamental character, and will be in the form of an oblong square. The inclosure will probably extend 450 feet in length by 350 in breadth—the entrance being by two gates, having an elevated lodge between them. Each end of the quadrangle is to have a double range of booths, with a paved passage between them. The walls of the booths are about 22 feet in height, exclusive of the projecting roof, which has an entire range of ventilators. Each booth has behind it a back house, 10 feet high, for securing the cattle, with a small enclosed court attached, by which the cattle will enter the building. The centre of the quadrangle is to be used as the hide and skin market. Pigs are to have an exclusive slaughterhouse; and an abundant supply of water is to be introduced into each booth. Mr. Cousin, Superintendent of Public Works, has furnished the designs.——The Scottish Episcopalians have erected a new church at Dunoon, which has been consecrated by the Bishop of Argyle.

PASSAGE OF WATER THROUGH PIPES.

IN a late number of your publication (page 441), a correspondent "Baylis," directs attention to a discrepancy he imagines he has discovered between the result of experiments on the flow of water through pipes, made under the direction of the Metropolitan Commissioners of Sewers, and the results arrived at by the formulæ of Beardmore and Hawksley, the former exhibiting a discharge of 75 cubic feet per minute, from a pipe of 6 inches diameter, at an inclination of 1 in 60, while Beardmore's tables exhibit but 53, and Hawksley's formula 52.

"Baylis" suggests that the officers of the Sewers Commission experimented with *pure* water; the other gentlemen named, with sewage.

I trust I shall not be deemed impertinent in coming forward to correct this suggestion of "Baylis," by offering for his consideration the real merits of the subject, and I shall be disappointed if, after a little more investigation, he do not agree with me in thinking that the experiments of the Sewers Commission are very satisfactory, as far as this particular size of pipe at the stated inclination is concerned.

The formulæ of Beardmore and Hawksley—indeed, of Etelwein, Prony, Young, Smeaton, and other authorities—are all constructed upon the basis of experiments made with heads of water at the ends of pipes; so that the water being only admitted at the end of the pipe, is exposed to friction throughout the whole length; and such formulæ are strictly applicable to "water works," and the distribution of water through mains. On the contrary, the experiments of the officers of the Sewage Commission, being for the purposes of "drainage," were made through pipes *having junctions attached at intervals, by which the water was admitted as well as at the head*; and it is expressly recorded as one of the results of the experiments, that it was found necessary, in a line of pipes 100 feet long, laid at an inclination of 1 in 60, to apply an *additional* head of 22 inches to obtain the same result without the junctions, as that accruing with their aid. It was also discovered that the discharges were about as the square roots of the inclinations.

Let us now compare the experiments with Mr. Beardmore's tables (I have not Mr. Hawksley's formula at hand, although I think it gives rather less results than Mr. Beardmore):—

In a length of 100 feet, to get an inclination of 1 in 60, we must have about . .	18 inches head.
To which we must add, to place the experiments on a par with the formula . .	22 „ „
Giving, without the aid of junctions, a total head of .	40 inches,

which is equal to an inclination of about 1 in 30; which, by Beardmore's tables, would yield a discharge of 76 cubic feet per minute: by the experiments of the Sewers Commission, it was 75 cubic feet per minute.

Again, let us, by the formula of the Sewers Commission, reduce the amount of discharge to what it would have been without the aid of junctions, or the compensating additional head of 22 inches; in other words, adjust it to the tables:—

$\sqrt{30} : 75 :: \sqrt{60} : 53$ cubic feet per minute, which exactly corresponds with Mr. Beardmore.

EDWARD RYDE.

The following table of the capacity and power of culverts and pipes for discharging fluids is compiled from a lengthened series of observations; but I regret to have to say that

the more study and labour is directed to this department of an engineer's practice, the more forcibly is the truth impressed that an arrival at strict accuracy is yet far from being attained. It is one of the prerogatives of talent to be able to fix upon truth, and to rescue the diamond from its commoner, the pebble; but until the times be redeemed from a sudden and an indecent haste in the construction of public works,—until thought is rescued from being starved and stunted in its growth,—until science is lifted out from the student's cell "and made honourable," money will still be wastefully lavished, devoted to the putting up of works, to become, in after times, a byeword by reason of their unmeaningness and their glaring imperfectness; and we shall still be compelled to go on entombing thought and erecting error over truth.

As a contribution towards arriving at an approximation to truth, this table, it is hoped, may be found of use:—

INCLINATION 1 IN 100.

Diameter.		Discharge from smooth Brick Culverts.	Discharge from Stoneware Pipes.	Discharge from Glazed ware Pipes.
Feet.	Inches.	Cubic Feet per Minute.	Cubic Feet per Minute.	Cubic Feet per Minute.
0	3	9·56	9·95	11·34
0	4	18·75	20·01	22·95
0	5	32·69	35·02	39.75
0	6	52·21	55·48	62·72
0	7	76·65	81·47	92·05
0	8	106·95	113·85	128·32
0	9	143·44	153·25	173·47
0	10	186·73	199·06	224·23
0	11	236·75	252·48	283·97
0	12	294·8	314·4	353·7

It may be added, that in conducting the tabulated observations, care was taken in forming the interior surfaces even: the joints were closed with cement. The rate of inclination in each case was uniform.

FRED. JACKSON.

GLASS IN DECORATIVE ART.

ALL our ideas of Oriental splendour—all the gorgeous imaginings of Orientals, themselves, of a splendour more than Oriental, in the fairy palaces of Arabian genii—might now be realised, to sight at least, in the sober actualities of British decorative art in glass. The lustre of silver and gold, the fiery sparkle of the ruby, amethyst, and every actual or imaginable gem, and the more subdued, but no less beautiful, hues of the pearl and the tropical shell, may now, by the recent efforts of British skill and invention, be combined, at a moderate cost, and without a vestige of mere gaudy glitter, in the decoration of the mansions of the gentlemen of England, so as to realise to the eye of taste far more than even the most princely magnificence could heretofore have realised.

It is our present purpose to give a brief account of these inventions, and first, and most especially, of those more particularly devoted to architectural details. These, too, merit all the more a prominent notice, inasmuch as the patentee, a lady of independent means, has destined the profits of her various inventions to the improvement of the condition of the female sex in this her native island. Moreover, the patent under which the inventions of Miss Wallace are, or ought to be, protected, comes, if we mistake not, first in order of date amongst those now to be noticed. With her peculiar claims, however, we have here less to do than with the merits of her productions. These consist, in principle, of imitations of gold and silver in glass, without the use of either metal, —of the protection of actual gilding or silvering under an almost invisible, yet magnifying coat of glass,—of a peculiar mode of adding metallic and pearly brilliancy to colours, to painted and stained figures, and to engravings, all in glass,—of imitations of marbles, alabaster, malachite, &c., in glass covered compositions,—of imitations of precious stones,—and of other inventions.

Among the various forms under which these are brought into use, in architectural decoration, by Mr. Holtorp, to whose management they are committed, are those of ceilings, in which a combination of them, with a peculiar mode of enamelling in white or pale blue on the inner surface of the interspaces in glass (another of this lady's numerous inventions, also applied with good effect to framed engravings), is capable of producing a dazzling effect, particularly by night, with a good, or even an indifferent, light reflected from it. Mouldings and cornices are made, to harmonize with these effects, and the same combinations, varied with the pearly brilliance of painted flower-wreaths, and wreaths of silver engraved on a gold surface, all in glass, are made to adorn the walls in form of picture-frames. Besides a number of these productions, in varied detail, we saw a specimen of stained-glass decoration for windows, in form of armorial bearings, in vivid colours, made peculiarly sparkling and brilliant, and, in some phases, pearly, by one of the processes already alluded to.

One great feature in most of these inventions, is, that the materials wherewith the effects are produced, wherever these consist of gilt copper mouldings, or even gilt paper, velvet, &c., are all protected, mostly within hollow mouldings of glass hermetically sealed, so that the gilding, &c., can never tarnish, and the whole is in this respect everlasting. So is it with the marble imitations, which are so firmly imbedded in composition that they are said to be quite well adapted to all the risks of exterior construction, for which they are designed, as well as for chimney-pieces and other forms of interior decoration.

Miss Wallace has proposed to the International Exhibition Commissioners, that the hall of glass be allowed to remain as a winter garden, open to the public, and be decorated at small cost by her processes. She also expects to be able to exhibit, in 1851, specimens of glass deprived in great measure of its brittleness.

The next inventions to be noticed are those of Mr. Hale Thomson, which, in principle, consist chiefly of a new mode of silvering all sorts of curved or other surfaces of glass, differing from Mr. Drayton's inasmuch as the nitrate of silver is held in a certain saccharine solution instead of oil of cloves, thus insuring, it is said, purity and permanence of colour. By an ingenious mode of moulding, the silver is lacquered on the glass *between* the outer and the inner surfaces, wherever, as in vases, cups, or other vessels, a double surface must be shown. The silver *diaphragm* or midriff, if we may be allowed so to call it, shining through the glass according to its colour, produces similitudes of silver cups lined with gold, or purely of silver or of gold, so perfect in appearance, as to have deceived the eye of a gold and silver smith; also ornamental vases and cups, which vie with the ruby, amethyst, jacinth, emerald, and other precious stones in their vivid reflections of colour. One cup seemed actually to blaze within with the fiery colour of the jacinth, another looked as if it were full of the most sparkling and luscious wine, and a third as if it were hollowed out of one enormous sapphire. One pair of vases of large size and beautiful tint, delicately engraved as if in *alto relievo* on silver, but in reality concave in all its rounded prominences, costs five hundred guineas. That, however, is an extreme price: two or three pounds appears to be the general cost of the smaller ornaments. The only application of this invention, as yet, to purposes more immediately architectural, at least which we observed, consisted of door-plates, with imitation knobs, apparently convex but really concave, and cut into the glass, with a colour like brass — a mere curiosity. Candlesticks showed, however, what might be done in ornamental pillars, cornices, or other decorations in apparent silver, gold, or translucid coloured stone. Metallic reflectors for light-house, railway, astronomical, or other purposes, protected of course by a glassy surface, merit notice from their brilliance.

In the forms to which these inventions have been applied there may yet be great improvement.

Mr. Kidd's process for illuminating, silvering, decorating, and embroidering glass girandoles, cheval, toillette, and other ornamental articles in glass remains to be noticed. We have here the hitherto plain surfaces of mirrors, &c., first engraved, or, as it is called, embroidered, in patterns, such as wreaths of flowers, by a new process of art, consisting of lathes with needle points for engraving, whereby, as in some of those already alluded to, a superior style of engraving on glass has been realised, constituting, in fact, a new branch of art. In this case Mr. Kidd has succeeded in silvering the engraved surface by a process not chemical like those of Mr. Thomson and Mr. Drayton, and the effect is excellent. The engraving, though on the inner surface of the glass, appears, in fact, as if raised upon the outer surface. In this way crests, armorial bearings for chairs or panels, and a variety of other decorations can be effected either in clear or coloured glass, as well as flower wreaths, fruit, landscapes, &c.; so that a new field is thus opened to art-artisans; and, when the means of embedding such art works solidly, and of protecting them from atmospheric and other injurious influences, are considered, the fragility of glass is in a great degree obviated, and the permanency of the work secured.

On the whole, we think we have made out the possibility, at least, of ultimately realising all those wonders in architectural and domestic decoration referred to in the outset, even by the aid of these new inventions in glass alone, and independently of all the other decorative appliances heretofore available to the architect, the upholsterer, and the decorative artist in general: at all events, when we think of it, the latter appliances are really few and pitiful by comparison with that potent phalanx of decorative materials by which they will now be reinforced. The love of decorative art in this country is rapidly on the increase, and we hope speedily to see the new era ushered in with a temperate and tasteful resort to all new and important inventions.

PUBLIC CONVENIENCES, AND POOR MENS' HOUSES.

UNDER this head I saw with pleasure in your last number some remarks on a subject which very much requires notice in other cities and large towns besides the metropolis. It is, as Mr. Stent justly observes, a delicate matter for the pen; but, after due consideration, I have long felt that by agitating such subjects the cause of delicacy will be better served than by silence; and that those who undertake the unpleasant duty of coming forward for that purpose will (by keeping the necessity for improvement before the public eye, *in print*, as it seems blind to it in its every-day results) deserve well of their country for the self-denial implied by a prominence in the disagreeable task.

Since you were good enough to insert a few lines from me on the same subject in reference to moderately sized dwellings of 30*l.* to 40*l.* per annum,* a host of such dwellings have been commenced here, all of them having the same defects as were there pointed out. From conversations I have had with their owners and builders, I am well assured we shall have no improvement till it be made matter of legal compulsion on landlords: the tenant cannot help himself otherwise than by such agitation as may induce a *law* in reference to it, being obliged to put up with a choice of such houses as landlords choose to erect.

In the late able article on sanitary architecture, is a suggestion that "perhaps gutta percha will answer" as a substitute for lead, for lining cisterns. I can say positively that it will, having tried it months ago in more cases than one; but it will not do for *hot* water cisterns. Great care must be taken that the wood is *perfectly dry*, and the solution of gutta percha (such as is used for fastening soles to shoes), liquified by immersion of the containing vessel in hot water, must be laid on in a good thick coat like paint, working the gutta percha with the brush well into the joints and corners. When cooled, a water-tight skin of gutta percha will be formed inside the cistern.

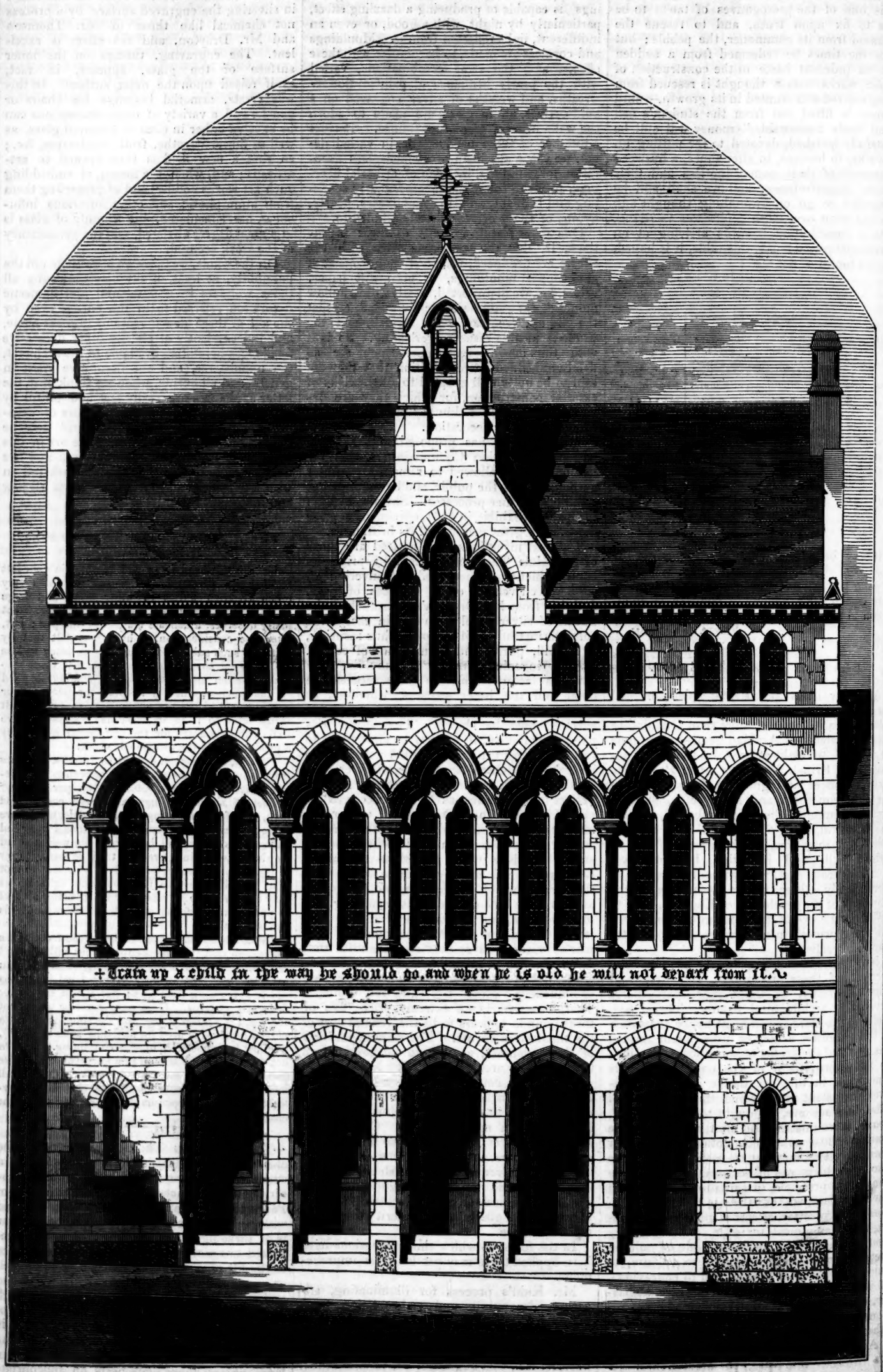
W.

THE BOLLING TESTIMONIAL. — In the chancel of the parish church at Bolton a window has been erected by public subscription, in memory of the late member of Parliament, William Bolling, Esq., and fitted with stained glass by Mr. Wailes. The window is of three lights, in each of which is represented two pictorial subjects having reference to the life of our Lord, either as a child himself or in connection with children. An engraved and enamelled brass plate, bearing a shield, with the arms of Bolling impaled with those of Slade, surmounted by the Bolling crest, is inserted in the stone work at the back of the sedilia, beneath the window, and under it a large oblong brass plate bears an appropriate inscription, in Gothic characters.

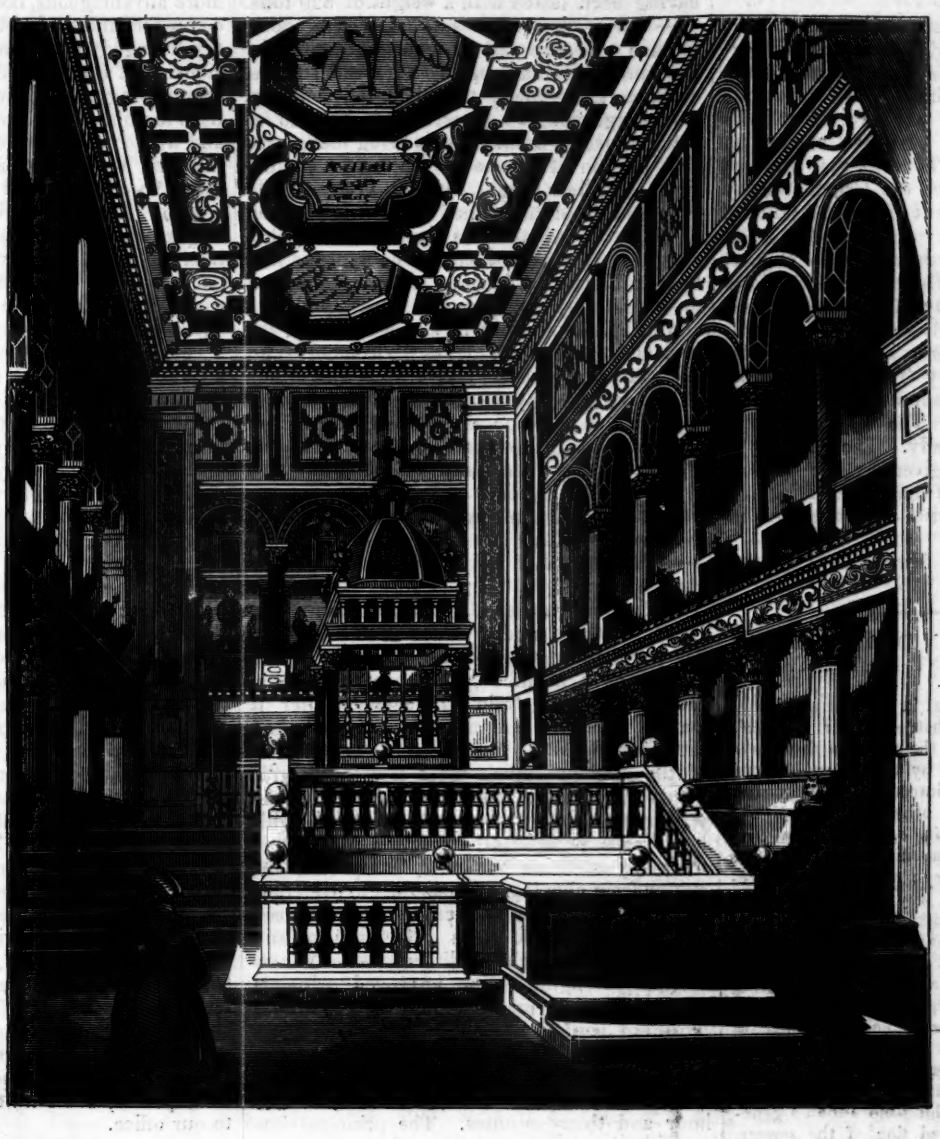
* See p. 350, *ante*.

ST. JOHN'S SCHOOLS, LIVERPOOL.

MR. HAY, ARCHITECT.



CHURCH OF ST. LORENZO FUORI, ROME.



ST. JOHN'S SCHOOLS, LIVERPOOL.

Our engraving represents the street-front of St. John's Schools, now erecting in Liverpool. The building includes an infant school on the ground floor, 37 feet by 21 feet; boys' and girls' schools on the two upper floors, 49 feet by 30 feet. There is an open arcade in front 7 feet wide, with a passage at each end, 5 feet wide, leading to the back playground. The staircase is octagon, in the centre of the back elevation, and has two separate and distinct sets of stairs in the same well. The front is being executed in Caen stone, filled in with Upholland flag rubble. All the timber throughout the building is Baltic: the roof of the upper school is to be open and stained. Mr. Hay is the architect. Mr. Miller is the contractor for the whole, and his estimate, exclusive of fittings, is 1,355*l.*

ST. LORENZO FUORI, ROME.

This church is well known, as having had the orientation changed. It is supposed to have been originally founded by Constantine, rebuilt 580 and 1220. The work of 578-90 included an entire rebuilding, the part then done being the present tribune end.

In 1216-27, the orientation was changed and nave added. The sketch shows the tribune. The triforium (of large size), is without a floor.

NEW CHURCH AT WICKHAM BISHOPS.

A church, dedicated to St. Bartholomew, has been erected at Wickham Bishops, through the munificence of Miss Leigh, the daughter of the late incumbent, and was consecrated last week.

The church is designed in the Early English style: it is built of Kentish rag stone, with dressings of Caen stone. It consists of a nave 50 feet long by 21, a north aisle of the same length, by 14 feet 9 inches, and a south aisle for the children, 25 feet by 13 feet 8 inches. These aisles communicate with the nave by four and two arches respectively, which, together with the pillars supporting them, are of Caen stone. The chancel is 32 feet long by 16 feet in width. The church has a tower at the western end of the nave, communicating with the latter by a lofty archway, the lower part being screened off for a vestry, &c. The tower is surmounted by a spire of timber frame-work, covered by boards and oak shingles, the total height being about 120 feet. The principal entrance on the north side has a porch of open woodwork, which, together with the doors, is framed of English oak.

The entrance to the churchyard from the road has a lich gate also of English oak. The external covering of the several roofs is of blue Staffordshire tiles. The floors of the passages, &c. of the church are laid with black and red Staffordshire tiles, and the chancel is paved with Minton's encaustic tiles. The whole of the internal fittings are of oak. The benches in the church have carved ends, but no doors. The seats in the chancel have carved elbows and stall ends: the fronts between them are arcaded. The communion railing is supported by pillars with carved capitals. The reading desk is formed with open arcaded work, and the front of the book-board is carved with foliage relieved by the inscription—"Search the Scriptures," which runs along it. The pulpit is of Caen stone.

The font is octagonal, with moulded base and carved bowl, having on four of its sides panels, representing, "The Presentation of Christ in the Temple," "Baptism of Christ," "Christ receiving little children," and "The Resurrection of Christ." It is surmounted by a carved cover, with pierced panels and crocketts.

The windows, with the exception of two, in the children's aisle, are all filled with stained glass. That in the west window is by Clutterbuck. The remaining windows are by Wailes.

The architect is Mr. Ewan Christian, and the works have been executed by Messrs. Higgs. The cost of the building and its fittings, exclusive of furniture, bell, plate, &c., is, we understand, about 3,000*l.*

ST. EDWARD'S CHURCH, ROMFORD.

On the 19th inst. a new church at Romford, Essex, founded on the 26th July, 1849, was consecrated by the Bishop of Rochester. It was built from the design of Mr. John Johnson, is in the Decorated style, will accommodate 1,104 persons, and has cost about 8,000*l.*

It consists of nave and aisles, 81 feet long, by 54 feet wide, and 55 feet high; chancel, 30 feet long, and 45 feet high; with north and south chapels on each side, for the children and organ. The tower is placed on the south side, facing the road and entrances; it is 21 feet square at bottom; it contains a peal of eight bells,* and is surmounted by a spire. The tower and spire are together 150 feet in height. The walls of the church are built of rubble, faced with Kentish rag-stone, and with Bath stone for the tracing and dressings of the windows, doors, &c. The roofs are of open framing, and, with the other deal fittings, are stained of an oak colour and varnished. The chancel is divided from the north and south chapels by oak screens and stalls on each side, and has a carved Caen stone reredos,

* The old peal has been re-hung, but one of them has been recast under circumstances that produced a novel subscription. The fifth bell was long known to be cracked, and when taken down it was found to bear this inscription—"The bachelors of Romford paide for this bell castinge—Robert Motte made me, 1578." Of course an appeal was made to the unmarried miserables, and in consequence a subscription was opened by the bachelors of Romford in 1850 for re-casting their bell, and it is now replaced in a perfect state, ready to ring the merry marriage peal for them when they find those they are looking for.

filled in with illuminated texts, monograms, &c.; and the floor is paved with Minton's encaustic tiles.

The pulpit and font are of Caen stone: the first has statues of the Evangelists at the corners, standing on corbels having their respective symbols carved on them.

Many of the fittings are gifts from individuals whose interest has been excited in behalf of the church. The large east window, stained with a painting of the Crucifixion, by Mr. Clutterbuck, is the gift of Colonel Graves, as a memorial to his wife; and the same artist has supplied two other windows in the chancel and at the west end. Three stained windows in the south chapel are by Mr. Wailes; these, also, are the gifts of private individuals, and are memorials to Mr. Sterry, sen. and his wife, Mr. Sterry, jun. Henry Tweed, and Miss Tweed. The chancel window is a memorial to Miss Emma Andrews. The font is also a memorial gift from a lady. The chancel is laid with encaustic tiles given by the lady of Mr. Coope. The body of the church is lighted by standard gas lights, with a *corona lucis* in the chancel.

Mrs. John Laurie, of Marshalls, gave the communion plate.

THE METROPOLITAN DRAINAGE OF SURREY AND KENT DISTRICTS.

Under the above heading, in a recent number of your journal, appeared an abstract of Mr. Forster's report upon the drainage of the southern districts of the metropolis, as adopted by the commissioners. From the wording of your introduction to the subject I was led, with many others, to look to the report itself for *some details at least* of a plan which is to cost the ratepayers of the district a quarter of a million of money; and that, be it remembered, merely by the way of prelude; for although the report commences by announcing "a report and estimate for a complete system of drainage for the Surrey and Kent districts," the estimate evidently provides for the main sewers only, leaving the detailed drainage, as explained in a subsequent part of the report, as well as the house drainage, at present out of the question.

To my great surprise, however, upon consulting the engineer's report, as printed, with a map for the use of the public, I find nothing more than a general description of the proposed line of the sewers, and the estimate published by you. Is this, I ask, all that the ratepayers and owners of property in this large district are entitled to before they become involved in an expenditure of (in the first instance) 250,000*l.* and subsequently, if I am not greatly in error, in a further outlay of 100,000*l.*—to be within compass? Will those who are interested in the outlay of a million sterling upon public works of the utmost individual importance to every one of a community of 500,000 souls submit to be thus taxed, without reasonable evidence that this very expensive whistle will sound when purchased and paid for?

However highly they may respect the talents of the engineer, it cannot be seriously expected that the ratepayers of the district will rest satisfied with this very general and off hand mode of dealing with them and their finances; in the absence, therefore, of such figures as ought to have been furnished for their information in evidence of the practicability and probable efficiency of the drainage when completed, and in the absence of the whole truth in shape of estimate, they have no alternative but to resort to their own mode of calculating probabilities, to prepare for themselves such tests as they may deem indispensible to so extensive an operation, to realise candidly to their own view the probable cost of that "complete drainage" hinted at, but not provided for, in the chief engineer's report; and then to form and pronounce their humble judgments upon what so nearly and dearly concerns them.

As soon, Mr. Editor, as the ratepayers' report shall have been received and adopted, I hope you will be furnished with a copy, and that it will be found worthy of notice in your pages.—T. W. P.

RAILWAY JOTTINGS.

The whole of the immense apparatus and surplus material used for the construction of the Britannia Bridge is about to be brought under the hammer.——The works of the Shrewsbury and Hereford Railway have been commenced by Messrs. Brassey, the contractors, in the neighbourhood of Ludlow, between which point and Shrewsbury, eighteen miles, it is intended to complete the line in twelve months.——The tubs bridge, of a span of 150 feet, over the Rugby and Leamington Railway, at the end of Bath-street and Clemens-street, Leamington, is now nearly completed, having been tested with a weight of 320 tons.——Our readers may recollect of a proposal to have a bronze cast of a colossal statue by Leyland, at Halifax, made and erected at the entrance to a railway tunnel in that vicinity. The suggestion, we perceive, has been so far acted on that a bronze cast is being made; the first portion of it, one of the legs, weighing eight hundred weight, having been already cast, and the statue named "The Anglo-Saxon Chief;" but whether its destination be that suggested, we cannot say. The figure is in a bent and intensely listening attitude, conceived to be poetically appropriate to such a position; and it doubtless would be so, even though the ancient Anglo-Saxon's idea of the iron horse and his train were no more refined than that of one of his own posterity the other day, who, on first opening his eyes on the monster, described him as "a muckle snorting beast that gave a great screech when it saw him, and ran into a hole." We scarcely believe, however, that the modern "Anglo-Saxon" would have dared to listen at the hole like his ancestor of bronze.——Under head of "A real Irish Railway," a contemporary says, "the site chosen for the erection of the magnificent Dublin terminus of the Great Southern and Western seems to have been unhappily selected for the uses of the railway, as a formidable hill has to be surmounted by the train immediately after it starts. Practical engineers assert that, had the spirit of jobbing not governed the counsels of the directors, much more favourable gradients could have been obtained." A passenger describes "two porters, armed with huge mops, preceding the snorting engine, and diligently scouring the rails," to prevent the engine from slipping, and enable it to overcome the ascent. A stationary engine for this part of such a line would seem to be requisite, and would obviate such a difficulty.——A new locomotive engine on an improved principle has lately been manufactured at the Great Northern works, Boston, which the makers warrant will run the distance from Boston to London (108 miles), with six carriages and two breaks, the usual express train, in one hour and thirty minutes. The principal improvement, we hear, is in the safety-valve.——An American correspondent of the *Mining Journal* says that an engine, called the *Dummy*, has just been used on the Hudson River Railway. There was no machinery to be seen, no smoke, no noise; it merely appeared like a huge square box, mounted on twelve wheels; and as the steam is condensed, and carried back to the boiler, there were no signs of even a steam-engine. The engine is said to have run six miles an hour.

THE EXCURSION SEASON.

The extraordinary success of the cheap excursion system is talked of with gratulations on all hands. Various companies are benefiting thereby to an extent not only unprecedented as are the reductions of charge yielding such returns, but altogether unlooked for by the companies benefited. Cheapening in railway traffic turns out, like a few other exceptions to a general rule, to be a very different thing from cheapening and screwing in trade. It benefits all parties, and promotes nothing like the overreaching, sweating, and other evils and mischiefs resulting from "ruinous competition." Moreover, the promotion of such occasional intercourse must improve the permanent traffic. The excursions already made, now going on, and yet to come off although the season draws rapidly to a close, are far too numerous for special notice, but all have hitherto been alike successful beyond expectation, although a sad accident has happened with one of them on the Great Western. The fact is, most of the excursion schemes of this season have been gone rather hastily into, probably without sufficient preparation and arrangement. It is said, however, to be the intention of the principal companies, during the winter, properly to organise a series of excursions for the next summer, to and from every part of the United Kingdom, and to announce the same in hand-books, to be issued early in the spring, so as to give the public a choice of attraction, and time to decide upon the localities most congenial to their tastes and pursuits. Such a course of proceeding, as remarked by a contemporary, will be found still more advantageous, both to the interests of the companies and the public, than the present hastily arranged and frequently ill-managed excursions. The London and North-Western will be then amongst others in the field with holiday trips to numerous places on their extensive line, and we do not despair of seeing trains to Liverpool and Manchester at rates something like those to Bristol and Bath of the present season. The Great Western excursion trains of next season have been already estimated as likely to add 20,000*l.* or 30,000*l.* to the ordinary returns. The *Morning Herald* speaks thus sanguinely of the redeeming influence of such traffic on railway dividends in general. "The judicious working of excursion trains—a class of traffic which is becoming a necessary portion of our domestic and moral economy—promises, with the very fair prospect of a continuance of the gratifying increase that has taken place in ordinary traffic, to give railway property that stability which over-speculation, Parliamentary discouragement, wholesale jobbing, extravagant expenditure, and general mismanagement, or a general inefficiency of control, have so seriously damaged." Excursions alone may not do all this, but a reconsideration, and a cautious reduction, of ordinary charges, an extension of the season, day, and return-ticket system in general, and other kindred measures, will greatly aid these occasional profits in accomplishing so desirable an end. Sharp practice, too, must be avoided. On the South-Western Line, the other day, we were swindled out of *three* shillings, because we had accidentally lost a double-journey ticket, for which we had already paid *two*, although name and address were proffered in proof of honesty. The superintendent at the Waterloo Station seemed to think it rather a good joke than otherwise: we should like to know, however, what would be said of a tradesman who, discovering that his customer, after paying his bill, had lost the receipt, should insist, not simply on being paid the amount a second time, but half as much again. If this should meet the eye of the "Board," we hope they will send the three shillings back to our office.

IMPROVEMENT IN PALL-MALL, AT THE ENTRANCE INTO THE GREEN PARK.

It really appears surprising, in a country like this, that with all their suggested improvements they cannot carry out one that presents itself with so few obstacles, and would be attended with so little expense, and form one of the finest vistas in the metropolis, and at once an eligible site for the marble arch. I allude to the continuation of Pall-mall by a fine avenue of trees from Stafford-house to Constitution-hill, placing the marble arch at the end of Cleveland-row, looking direct into the Park. The idea is not new, it was first urged in your pages, and it is one that suggests itself at once on looking at the plan of proposed improvements in St. James's Park.

A Sub.

ENCLOSURE OF THE BRITISH MUSEUM.

I take leave to call your attention to the fence about being erected in front of the British Museum. You doubtless know the plan of the architect was a dwarf wall and iron palisades extending the whole length of the buildings, which, from its lightness, and the relief it would have given the edifice, was highly approved by the public, and its completion has been long anxiously looked for.

Unfortunately the gentlemen residing in the wings have objected to the publicity which an iron railing would give to their dwellings, and they have succeeded in getting the plan altered, so that a stone wall twelve feet high is to be erected at each end, extending some yards beyond the residences: thus one half the space, or nearly so, will have the aspect of a prison, and the wall will doubtless in a few weeks be embellished with a succession of temporary "conveniences" to the annoyance and disgust of the neighbourhood. The news of the alteration of the plan was at first received with incredulity, but now that the ground is marked out shewing how far the high wall is to extend, sorrow (I will not say indignation) is fast taking the place of disbelief.

One of the People.*

* We have received three other letters on the same subject.—Ed.

THE PROPOSED JUNCTION OF THE ARCHÆOLOGICAL SOCIETIES.

We can scarcely believe that the advertisement which has been issued by the Committee of the Archæological Institute, offering what they call "reasonable encouragement" to the members of the Association to join their body, can be meant as a serious response to the well-intentioned and very praiseworthy resolution passed at the Manchester meeting of the Archæological Association, recommending the Council to take steps to promote a junction of the two bodies. The object desired by this resolution, moved by the President of the Cheetham Society, and seconded by, we believe, a member of the Archæological Institute, the Bishop of Manchester being in the chair, is sufficiently important to the cause of archæology to call for some earnest endeavour on the part of the Council of the Institute to meet it, and to enlist in its favour every unprejudiced member of that body, and every earnest friend to antiquarian researches and archæological knowledge. The advertisement in question must surely have been issued under some misapprehension, and should be at once repudiated by the members of the Institute.

Books.

Architectural Illustrations of Warmington Church, Northamptonshire. By Mr. W. Caveler, Architect. London and Oxford: John H. Parker. 1850.

Warmington Church dedicated to the Virgin Mary, is in the northern part of the county, about three miles from Oundle. It is early English in style—approaching the Geometrical. The earliest part, which is on the *south* side (not the north, as stated in the work before us), is ascribed by Mr. Caveler to 1220, and the latest part to 1280. The nave measures on the plan 47 feet in width, and 70 feet in length, or one-and-a-half times the width; the chancel is 41 feet 6 inches by 19 feet.

Mr. Caveler's volume, which ranges in size and manner with the illustrations of churches published under the direction of the Oxford Architectural Society, gives plan, elevation, sections, and every detail drawn with great care and clearness. The church is remarkable in having a ceiling entirely of wood in imitation of a stone vault. The book will be found very useful.

Report of the General Board of Health on the Epidemic Cholera of 1848 and 1849. W. Clowes and Sons, for H.M.'s Stationery-office. 1850.

This is a handy little blue book of the new and reformed order, and not only without the repulsive aspect of the huge folios of old, but full of matter valuable and interesting to all. To speak compendiously of its contents, it presents a digest of all that is known of the warnings of cholera, the previous increasing prevalence of epidemic diseases, the return of cholera to the same countries, towns, and even houses, the sameness of the haunts of fever and cholera, their greater prevalence near the banks of rivers, the operation of local influences on strong and healthy subjects, the morbid effects of crowding, filth, offensive manufactures, sewers, and piggeries, putrescent mud and ditches, dampness, water polluted by town drainage, graveyards, improper food, intemperance, fatigue, and other notorious causes.

The power of preventive measures, especially of a sanitary description, to destroy the predisposition to cholera, has been enlarged on and is most striking and remarkable.

"We submit," say the reporters (Lord Ashley, Mr. E. Chadwick, and Mr. Southwood Smith), "that the late experience has added to our previous knowledge of the efficiency of sanitary arrangements in checking the extension of this formidable disease. For the evidence which we have now detailed shows,—that where material improvements have been made in the condition of the dwellings of the labouring classes, there has been an entire exemption from the disease; and that where minor improvements have been introduced, the attacks have been less severe and less extensive, and the mortality comparatively slight."

Even the simple process of lime-washing has been found to be far more effectual than those recommending it had any conception of—not only in the prevention or suppression of cholera, but of fever and disease in general,—a fact not easily explained, it may be, although we know that white and black surfaces absorb heat and light and *smelling vapours* very differently. Black clothes, for instance, even though new and clean, seem to have a peculiar capacity for absorbing noxious vapours, which will hang about them much more than about light-coloured vestments. We would, therefore be inclined, half-seriously, to recommend the casting off of all lugubrious or sad-coloured garments, should the enemy again appear. But now is the time for the establishment of the most effectual of all preventive measures,—namely, sanitary reform in general. The reporters urge the "incomparably greater efficacy of measures of prevention than of those that are merely palliative or curative;" and finally they "submit that it is, in the mean time, essential to the protection of the public life and health that adequate legislative powers should be given for dealing effectually with those extraordinary and formidable states of disease, the occasional occurrence of which must be expected, until these sanitary works have been completed and have been introduced into all the towns of the kingdom."

Miscellanea.

Sights and Scenery.—The opening scene for the excellent drama at the *Haymarket Theatre*, "Giralda," is very effective, and entitles the painter to credit.——At the *Princess's Theatre*, which opens on Saturday, particular attention, we understand, is to be paid to scenery and costume.——Considerable alterations are being made in *Her Majesty's Theatre*, preparatory to opening for popular concerts.——The Panorama of *the Nile* is about to be removed into the provinces. Those who have not seen it should go at once.——A second visit to Mr. Ailom's panorama of *The Dardanelles, Constantinople*, &c., has done more than establish the high opinion of it we have already expressed.——In spite of all the novelties, the *Colosseum*, with its brilliant picture of Paris, its sculpture gallery, conservatories, &c., still stands one of the great "sights" of London.

A New "System of Aerial Navigation." — An ingenious invention of a M. Petin is described and illustrated in the Parisian *L'Illustration*, from which it has been translated into the columns of our own *Illustrated News*. In the brief compass of a paragraph, which is all we can afford at present to the building of ships in the air, it will be difficult to explain clearly the whole principle and mechanism of this new "system;" but let our readers keep in view what we lately said as to surplus weight as a point of resistance to working power as in the flight of birds, for in that we have something like the germ of this idea, only it is in a manner duplicated and combined with that modification of the same principle by which fishes rise and sink and swim in water. "No one," says the writer in *L'Illustration*, "has recognised, or, at least, set out with this principle, that bodies, animate or inanimate, never move but by the combination of the action of the heavy body with the resistance of the surrounding medium. Such is the law which has served M. Petin for his starting-point." This is the very starting-point to which we have repeatedly called attention ourselves, however, while noticing past endeavours to acquire dominion over the air. "Behold, then, in three words, the whole system of M. Petin—the lever, the fulcrum, and the inclined plane. The fulcrum is everywhere in nature—it is upon the earth for man and terrestrial animals; it is in the water for fishes; and, finally, it is in the air for birds; and the Creator, in his admirable foresight, has given to each animal the form best adapted to the fulcrum which must aid it in moving." M. Petin works out his principle thus, however, and not exactly like birds in the air as alleged. He has four balloons in a series connected with a framework raking fore and aft like a ship with its sails. He uses both the weight of ballast and the levity of gas. In rising by the balloon inflation, rather as a fish in water than a bird in air, he *opposes* to the tendency to rise a system of parachutes resisting that tendency, and so manages these as to cause the machine to ascend in an inclined plane, and thus make progressive motion. In descent the very same principle is brought to bear by allowing gas to escape: another series of parachutes opposes the downward tendency, and is so managed by unequal pressure as to send the machine forward down an inclined plane. A system of guiding helices worked by hand or other power is also made to screw into the air in horizontal and progressive motion. Here, perhaps, is his weakest point; but we cannot afford space for further explanation.

Protection of New Inventions from Piracy.—"A Poor Inventor" writes us, very despondently, on the disappointment of the promise of protection made by the International Exhibition Commissioners to the many poor men, such as him, who were buoyed up by the hope, induced by that promise, that to them and their families 1851 would indeed be a year of jubilee and rejoicing. The Exhibition hall was to be a fair field for them, and without favour to those who "feed and fatten on the poor man's brains." But thanks to a Commons' House blind to the crying evils of an expensive patent law for the protection of these very pirates, who, under its protecting flag, are free to plunder those poor inventors whom a patent law ought to protect,—the only industry connected with such inventions that is likely to be countenanced and to prosper in the great exhibition of industry, if the commissioners do not use further and more strenuous exertions to fulfil their promise, is the ceaseless vigilance of a horde of inventive *chevaliers d'industrie*, whose roving commissions under the patent law are virtually and really smothering in their birth the hopeless fruits of the poor man's ingenuity, and suppressing ultimately that very invention which a patent law, worthy of common sense, should cherish and extend. An instance of another sort of evil in some respects, though in others of a similar kind, connected with the patent law, and the often ruinous, or even altogether impracticable expense, at law, of vindicating patent rights, has just been brought under notice by a correspondent of a cotemporary, who adduces it as "another instance of the unfortunate position of inventors, and that even the promised protection of a patent can scarcely insure them either praise or profit for their ingenuity." The instance alluded to is that of the patent of a poor man, now dead, for ventilating by steam; his family having been repeatedly, it is said, and with entire impunity, plundered, by infringements of their patent. It is even alleged that the ventilation of the Courts of Exchequer and Common Pleas at Westminster is about to be effected under an infringement of that patent, which was taken out by the late Mr. James Grant on 7th May, 1844. It is to be hoped that a searching, thorough, and fundamental revolution in the patent law will be speedily accomplished, and that the Industrial Commission will feel themselves in honour bound to use every endeavour, by renewed application to the Commons, to obtain the protection promised to poor inventors.

The Granite Quarry at Kirkmabreek.—The granite blocks and paving stones for the docks and quays of Liverpool are taken from a vast quarry at Kirkmabreek, near Blackcraig, in Galloway. The quarry was opened about twenty years ago. The working of this quarry, in 1834, cost nearly 15,000*l.* including rent and tonnage of vessels, &c. It is wrought in three breasts about 30 feet high each, the one above and behind the other. At one time powder was much employed in this work, but except in opening up corners, has been for some time entirely given up. Drills, wedges, crowbars, sledge-hammers, and cranes are now principally used in quarrying even the largest masses; and it is truly astonishing to see with what facility even mountains can be removed by handicraft. In the quarry the rocks are stratified. The strata are perpendicular, and vary in thickness from 9 inches to 5 feet. When a mass is to be separated, wedges are introduced between the strata, and are driven down with sledge-hammers, and a separation is effected. A large crowbar, well-manned, is then applied, to throw down the mass to the bottom of the

quarry. A block of 14 tons is soon cut to the size and shape required, by the power of 'the plug and feather.' When a hole has been bored of the required depth, two wedges are introduced into the hole, with the thick end down, and by driving the one in the centre, the combined power of three wedges is thus obtained, and made to bear upon every hole, and thus split the stone.

LIVERPOOL ACADEMY'S EXHIBITION.—The following is a list of sales during the ten days in which the Exhibition has been open:—"A Group on the Mountains," T. S. Cooper, A.R.A.; "Evening," T. Creswick, A.R.A.; "Esther's Emotion," H. O'Neill; "Morning," J. Sant; "Cottage Scene," T. Westcott; "Fall of the Staubach," H. C. Selous; "View near Rivington," R. Tonge; "The Morning Ride," W. Huggins; "Gravel-pit in Burnham Beeches," H. C. Pidgeon; "A Breton Family," E. A. Goodall; "Ruins of Blackfriars' Monastery, Hereford," W. Callow; "A Country Lane," J. Clayton Bentley; "Kitchen at Mayfield, Sussex," C. Landseer, R.A.; "Cylnockie Bridge," J. Peel; "Rivington Pike," R. Tonge; "Scene on the Avon," W. E. Deighton; "Distant View of Dunster Castle," Copley Fielding; "Queen Elizabeth as the Fairie Queene," Frank Howard; "Kreuznach on the Nahe," G. Stanfield; "Cliffs near Boulogne," G. Stanfield; "Edinburgh, from Inchkeith," C. Bentley; "Fish Girl," W. Davis; "Nook in a Farm-yard," W. Huggins; "Study from Nature," Thos. Westcott; "Castle of Nassau," T. M. Richardson; "The Last Man," John Martin; "Flowers," Miss Annie Mutrie; "A Fresh Breeze off the Isle of Wight," A. Vickers; "Landscape, near Newport," A. Vickers; "A Bright Summer's Day," H. J. Boddington; "St. Nicholas Church, &c., Liverpool," J. H. Williams; "Gleaners," J. A. Puller; "Group, in marble, of Romulus and Remus," Auguste Malampré. The total sales already amount to upwards of 1,400*l.*

BLASTING OF SEAFORD CLIFF.—This great undertaking has been successfully accomplished. The galleries and chambers filled with gunpowder, as already described, were fired by the voltaic battery placed behind the cliff, and in presence of a vast number of spectators, an immense mass of cliff, at least 100 feet in height, twice as broad, and running out to a point about 300 feet, bent forwards towards the sea, cracked in all directions, crumbled into pieces, and fell upon the beach in front of it, forming a bank down which large portions of the falling mass glided slowly into the sea for several yards, like a stream of lava flowing into the water. As in previous instances, there was no very loud report, though a rumbling noise was heard, and a tremulous vibration was felt nearly three miles off. A chimney fell at the village, three-quarters of a mile off. It was believed that further cliff-falls would follow. The mass separated was larger than expected, and is thought to comprise at least 300,000 tons. The effect of the first discharge was so great, and the ground was so loosened near the telegraph-house that the upper charges were not fired. The beach is about 200 feet wide at low water, as was the case at the time of the explosion, and that space was more than covered. The explosion at Dover was performed with a smaller quantity of gunpowder, but the work done was greater there, as there was a natural cleft behind. It is to be presumed that some future means of fixing the sea-wall thus formed, so as to prevent its being washed away in course of years, will be taken, otherwise throwing the cliff into the sea might only tend to accelerate the mischief by bringing the material prematurely within the destructive influence of the waves.

THE SOMERSETSHIRE ARCHÆOLOGICAL SOCIETY held their annual meeting at Wells on Tuesday in last week, the Bishop of Bath and Wells in the chair. His lordship spoke especially of the pursuit of natural history as a study teaching humility. "Whether (said his lordship) we view the working of the Almighty's hand in the minutest of the creeping things under our feet, in the lowest hyssop on the wall, in the cedar forest, or in the mountains in which they grow, or in the stupendous ruins of early creation now passed away; or whether we view the handicraft of men in the massive columns, the lofty arches, the delicate tracery, the exquisite sculpture, of all which this city and neighbourhood furnish such rich examples; there is but one and the same lesson of humility to be learned." The report stated that the society had been in existence eighteen months, and consisted of more than 300 members. Papers were read by Mr. Baker, "on the marl pits of Somerset; by Mr. J. H. Markland, on the "sculpture of the west end of Wells Cathedral;" and by the Rev. Mr. Clark, "on Wells Cathedral." Next day (Wednesday), the members proceeded to Glastonbury, to view the ruins of the abbey, and hear an illustrative paper by the Rev. Mr. Ward; after which they ascended the Tor. The next anniversary will be held at Bath.

WIDENING CHANCERY-LANE.—Two corner houses are about to be pulled down at the Holborn end of this lane, and the local authorities have offered Mr. Steel 750*l.*, for 7 feet of frontage, to widen the inconvenient thoroughfare at this point. The offer has been refused, but 4 feet proposed for the sum named. The matter is still under negotiation. Lord Radnor has most liberally given up to the public the nook or bend projecting between the houses alluded to. The Woods and Forests, it appears, have power to interfere, if necessary, for the public behoof in this matter.

ELECTRO-TELEGRAPHIC.—Negociations, it is rumoured, are on foot with Government for the establishment of a submarine telegraph over the 60 miles of sea from Holyhead to Kingstown, and onwards to either Cork or Galway, to be thence connected by steam-ship with the nearest telegraph station on the other side of the Atlantic.——The Ohio, Indiana, and Illinois Telegraph Company has 1,000 miles in working order.——Within the last four months, no less than 1,000 miles of telegraph have been opened in Germany, making the total mileage about 2,000 miles, of which about one-quarter has the wires laid underground. Another 1,000 miles will be ready by next year. The telegraph now works from Cracow to Trieste, 700 miles. On 1st October the new telegraph union between Austria, Prussia, Saxony, and Bavaria comes into operation, under a uniform tariff, with one-half of the former charges.

AEROSTATIC RAILWAY BETWEEN FRANCE AND ENGLAND.—A Frenchman, M. F. Lemaitre, determined to be mastered by no mere telegraphing English engineer, has been astonishing the Academy of Sciences with an elaborated scheme of a true suspension-bridge for as true an atmospheric railway between Calais and Dover, the chains, peculiar in construction, to be suspended above from a formidable regiment of elliptical balloons, floating permanently in the air, and below to be attached to heavily-laden barges sunk under water, while abutments on the opposite shores will complete the suspension, so as to support a fairy railway bridge, under which, we presume, the Channel shipping traffic may have its usual free course to and fro! As to cost, M. Lemaitre calculates that 300,000fr. per 100 yards, or 84,000,000fr. in all, will suffice. Original as M. Lemaitre's idea may be, perhaps he is not aware that in the suggestion of a railway communication across the Channel, an Englishman is still a-head of him in respect to priority at least, a submarine railway tube or tunnel of wrought-iron having been projected by a Liverpool correspondent of our own, Mr. De la Haye (French name, though, after all), even prior not only to the realisation of the Britannia and Conway tubes, but to the time when they themselves were first such a subject of ridicule as doubtless M. Lemaitre's idea is destined in its turn to be.

THE IRISH AMELIORATION SOCIETY.—The inauguration of the new society, established by royal charter, for the employment of the Irish peasantry in the manufacture of peat charcoal as a substitute for wood charcoal in all its purposes, but particularly for deodorisation of manure, &c., took place lately at one of the society's stations, in a wild and remote part of the bog of Allen. The opening of the station was witnessed by a number of distinguished persons, among whom was the Chief Secretary of the Government for Ireland, the Archbishop, Mayor, and Sheriff, of Dublin, the Earl of Clancarty, &c. This model station is at Derrymullen, county Kildare, and consists of three wooden houses, with machinery for grinding charcoal, &c. Mr. Jasper Rogers conducted the party through the station, and afterwards gave a description of the works, in which he stated that the profits were to be expended in establishing practical instructors at the stations, 200 of which were contemplated by the charter. The people, he said, were but too happy to be employed by the society, and "often when he gave a man liberty to work, that man would burst out crying with pleasure." They required no task-master, though there were overseers. The society could sell their charcoal at 30*s.* a-ton, but the market price was still from 4*l.* up to 10*l.* in England. The Metropolitan Sewers Commission had given orders to prepare charcoal for a certain number of sewers, and he expected that London alone would ultimately take 2,000,000 tons yearly.

SURVEY OF BIRMINGHAM.—At a recent meeting of the guardians, the three candidates reserved for final selection, namely, Messrs. Leversedge and Corfield, of Taunton, whose tender was 700*l.*, and who calculated twelve months as the time they would take; Mr. J. D. Paine, of London, 945*l.*, and in ten months; and Mr. I. Newey, 1,445*l.*, in twenty-one months; were called in, and the chairman and several other members put various questions, relative to the mode of assessment, and other matters relating to the work. Mr. Paine asked that the time should in his case be extended to twelve months, and Mr. Newey requested that he should be permitted to tender at eighteen months instead of twenty-one, which the board, in both cases, seemed inclined to grant. After a short discussion as to the proper mode of procedure, it was at length determined that one gentlemen should be recommended for appointment, and on going to the vote, Mr. Paine was selected.

COMPETITION PLANS FOR BRIDGE ON THE RHINE AT COLOGNE.—It appears, from an official document published by Mr. Van der Heidt, the Minister of Trade and Public Works, that the committee appointed to examine the merits of the various plans for a bridge over the Rhine, between the cities of Cologne and Deutz, have awarded the first prize of 250 frederics d'or to Mr. John W. Schwedler, architect, of Berlin, and the second prize of 125 frederics d'or to Captain W. Moorsom, of London.

THE "THAMES SEWAGE SALVAGE COMPANY."—Under this title a new company has been started, notwithstanding previous failures of similar schemes. It proposes to conduct the entire mass of sewage matter, by means of an iron tubular channel, to such a distance from London and its suburbs, that the flow of the tide cannot return it to the bed of the river. Its current will be concentrated at a certain point already determined on, situate below Gravesend, where it will be received into covered repositories, to undergo both a chemical and mechanical process, by which it will be condensed, and rendered a valuable fertilising agent. It is also a portion of the plans of this company, by means of a peculiarly constructed tidal-wheel, which they have secured, and a line of pipes concurrent with the sewage tubes, to supply the cities of London and Westminster with a constant stream of pure sea water, for the use of hospitals, public institutions, &c. The company propose to raise a capital of 300,000*l.*, with power to increase it to 500,000*l.* It is estimated that the sale of the manufactured manure, at a maximum price of 10*s.* per ton, will leave a large annual profit to the shareholders. We won't say.

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For house in Cannon-street, City, for Messrs. Beard. Mr. Jas. T. Knowles, architect:—

Piper	£3,573
Maney	3,530
Lindsey	3,450
Rider	3,424
Grimsdell	3,353
Wilson	3,276
Henry Burton	3,086
Lawrence and Sons	2,837

For gas-fittings, for Trinity Chapel, High Wycombe, now erecting. Mr. Charles G. Searle, architect.

	Fittings.	Fixing.	Total.
Lacey, High Wycombe	£88 10 0	£21 0 0	£109 10 0
Shepherd, ditto	42 2 0	24 0 0	66 2 0
Hulls, ditto	27 0 0	22 10 0	49 10 0
Fulton, London	29 10 0	18 10 0	48 0 0

TO CORRESPONDENTS.

"J. T." (we shall be glad to see the M.S.)

"Watchman" (we have made an exception in respect of his communication), "M.," "W.," "J. L. G.," "T. B." (thanks), "S. G." (we will try and see for ourselves), "T. W.," "W. M.," "B. B.," "P.," "Caustic," "R. S. B.," "H. C. P.," "G. J. F.," "E. B. L.," "W. S." (the names have already appeared in our pages), "Pythagoras," "J. McC., jun." (it is not sold, that we are aware of), "J. H. C.," "P. D.," "W. J. W.," "J. S.," (if he know his business thoroughly, he is), "R. D.," "Mr. W.," "Quondam," "Remarks on the Architecture of Llandaff Cathedral," &c., by E. A. Freeman, M.A. (London, Pickering, 1850), "Chapel and School Architecture, as appropriate to the Buildings of Nonconformists," by the Rev. F. J. Jobson (London, Hamilton, Adams, and Co., 1850), "Useful Hints on Ventilation," by W. Walker, engineer (Manchester, Parkes; London, Simpkin and Marshall, 1850).

"*Books and Addresses.*"—We have not time to point out books or find addresses.

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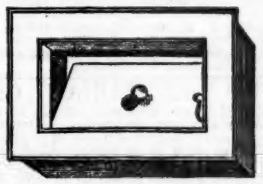

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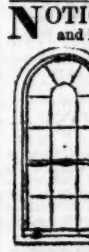

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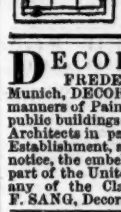

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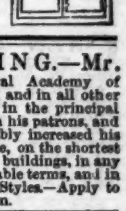

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RANDELL and SAUNDERS, QUARRYMEN and STONE MERCHANTS, BATH.
List of prices, also cost for transit to any part of the kingdom, furnished on application.

MARKET WHARF, REGENT'S-PARK BASIN.—MARTIN and WOOD solicit the attention of Builders, Masons, and others, to their stock of Portland, York, and Derby Stone; also Bangor Slates, Lime, Cement, Plaster, Bricks, Tiles, Laths, Fire-goods, Fire-stone, &c., sold at the lowest possible prices for Cash. Portland Head-stones, Ledgers, Steps, Landings, &c., cut to order on the shortest notice. Tarpaulings let on hire. A Stock of Northen's Drain Pipes, Syphons, &c., always on hand. Mortar, Lime and Hair, Fine Stuff, &c. Prompt attention paid to country orders.

BATH STONE.—RANDELL and SAUNDERS, Quarrymen, Bath, have appointed MARTIN and WOOD their sole agents in London. M. and W. beg to inform Architects, Masons, Builders, &c., that a large assortment of the much approved CORSHAM DOWN and other BATH STONE will always be kept at the Depot, opposite the Great Western Railway Station, Paddington. Orders will also be received at Market Wharf, Regent's-park Basin.

BATH and BOX WEATHER STONE.— HENRY STONE, QUARRYMAN and STONE MERCHANT, begs to inform Architects, Builders, and others, that he still continues to supply the best Combe Down and Lodge Stile Stone.—H. S. also begs to announce that he has opened two extensive quarries on Box-hill, from whence he is able to supply, to any extent, the best Ground Weather Stone on the most reasonable terms.—N.B. Ashlar, Quoins, and Rangework out to order.—6, St. Mark's-place, Widcombe, Bath.

CAEN STONE, SELECTED FOR EXTERNAL WORKS.—LUARD, BEEDHAM and Co., Quarry Proprietors and Importers from Allemagne.
AUBIGNY STONE from the Quarries, near Palaise, Calvados Department.—Aubigny is of similar colour to Portland Stone, its texture finer, price and labour of working about the same.
RANVILLE STONE from Ranville Quarries, near Caen, Normandy.—Suitable for strong works, wharf and quay walling, price and labour similar to Caen Stone.—Depôt, Caen Sufferance Wharf, Rotherhithe.—Information and samples supplied from the Office, 18, Southwark-square, Borough.

CAEN STONE.—P. FOUCARD, Quai des Abattoirs, Caen (propriétaire des Carrières à Allemagne), offers CAEN STONE guaranteed from the first quarries at Allemagne, at 1s. 1d. per cubic foot, delivered to vessels or waggons (free of expense), from the depôt at the Whitby and Scotch Wharf, 14, Fore-street, Limehouse.—Contracts taken for any quantities.—Cargoes shipped to order, from Caen, to any part of the coast, on the same terms.—Apply to P. FOUCARD, at the Office, 39, Stoney-street, Borough Market; or to Mr. S. WEBSTER, at the Wharf.—Samples to be seen, and references to be had, at Mr. MARSH'S, No. 3, Charlotte-row, near the Mansion House.

VEINED MARBLE. — TO MASONS, BUILDERS, &c.—NOW on SALE, at the Marble and Wood Sawing Mills, Commercial-road, Pimlico, The largest STOCK in London of VEINED MARBLE, in SLABS, at the following low prices for Cash:—

¼ inch	1s. 3d. per foot super.
½ inch	1s. 6d. "

Sawing, 8d. per foot super, fetched and delivered; Bardilla, Dove, Black, and Gold Statuary, and all other Marbles in general use, in slab and block, equally low.

SAMUEL CUNDY, Mason and Builder, PIMLICO MARBLE and STONE WORKS, Belgrave Wharf, Pimlico.
GOTHIC WINDOWS, ALTAR SCREENS, and other Works produced at a remarkably cheap rate.
FONTS from 5l. upwards. Specimens on view of the Early English, Decorated, and Perpendicular styles.
ALTAR TABLETS Illuminated.
First-rate ARTISTS retained for SCULPTURED GOTHIC CARVINGS.
MEMORIAL CROSSES, MONUMENTS, TOMBS, HEADSTONES, &c., in great variety of design. Letters cut and complete for fixing in the country.
The Public are respectfully invited to view the carefully selected and manufactured Stock (by improved machinery) of Veined Marble Chimney-pieces—cheap and good.
DAIRIES fitted up with MARBLE or SLATE SHELVES.—MINTON'S Encaustic and White or Blue and White Porcelain Tiles in great variety of pattern.
A GOOD MARBLE CHIMNEY-PIECE FOR FORTY SHILLINGS.
A liberal discount to the trade.

BROCATELLO MARBLE.—A fine parcel of this rare and valuable marble has just been imported in blocks of advantageous sizes, and may be seen at the wharf, No. 17, Millbank-street, Westminster.

TO MASONS.
REDUCED PRICE of MARBLE SLAB. —The LONDON MARBLE AND STONE WORKING COMPANY continue to sell Slab, of superior quality and well sawn, at their Manufactory, ESHER-STREET, near Millbank, Westminster, at the following reduced prices, viz.:—
½ inch, at 1s. 2d. per foot.
1 inch, at 1s. 4d. "

STIRLING'S BELVEDERE SLATE WORKS, Belvedere-road, Lambeth.—A reduced list of prices of the best WELSH SLATE SLABS, planed both faces, will be sent on application (post paid) being made, and inclosing a postage stamp. The prices are under those advertised for inferior slates.

THE PIMLICO SLATE WORKS.— Patronized by Royalty, the Heads of the Nobility, the Clergy, Architects of Eminence, Builders, Railway Contractors, and the Public generally.—MAGNUS'S ENAMELLED SLATE (notwithstanding the vile imitations and infringements of his patent that are attempted) continues to grow in favour with the public, being handsomer, more durable, and very much cheaper than marble.—Price lists sent to any part of the kingdom gratis, and a book of drawings sent postage free on receipt of 3s. in postage stamps. Cisterns, Filters, Dairy and Larder Shelves, Wine Cellar Fittings, Slabs, and every variety of plain Slate Work, at prices that defy competition.—49 and 50, Upper Belgrave-place.

IMPORTANT TO ARTISTS, MODELLERS, SCULPTORS, &c.
MR. B. BARRETT, of 476, New Oxford-street, begs most respectfully to call the attention of those engaged in the above professions, and the trade in general, to his Modelling Clay, which he can supply at 2s. per 100, or 30s. per ton, for cash.

TO ARCHITECTS, BUILDERS, &c.
ALL DESCRIPTIONS of CEMENT and PLASTER CASTINGS executed in a first-rate manner, on reasonable terms, by J. HERBERT and SON, Modellers, &c., 42, Parker-street, Drury-lane. A splendid assortment of Corinthian, Ionic, and other Capitals, Centre Flowers, Ballusters, Trusses, &c. Elizabethan and other Chimney Shafts.

CEMENT, PLASTER, and COMPOSI- TION ENRICHMENT MANUFACTORY, 18, Crown-street, Finsbury-square, London.—WM. SMART, Jun., begs to inform architects, builders, and the trade that he is prepared to execute works of any magnitude in first-rate style and finish at very low charges. Architects' designs carefully modelled and faithfully carried out, and estimates given on receipt of detailed drawings, &c.—Wm. SMART, Jun., ARCHITECTURAL MODELLER and ORNAMENTALIST, 18, CROWN-STREET, FINSBURY, London. Established in the family three-fourths of a century.

BLUE LIAS LIME, PLASTER, &c.
THOMAS FREEN and CO. having connected with their ROMAN CEMENT WORKS an extensive Manufactory of GROUND BLUE LIAS LIME and PLASTER of PARIS, beg to call the attention of Builders and others to the very superior quality of these articles, which they are prepared to supply upon the most reasonable terms.
WORKS—Tuscany Wharf, Regent's Canal, Kingsland-road, London.
DEPOTS—Lee's Wharf, Paddington; and Phœnix Wharf, Greenwich.
N.B. Grey and Chalk Lime, Paving Bricks, Tiles, Artificial Stone, Plasterers' Hair, &c. &c.

TO BUILDERS, CONTRACTORS, AND OTHERS.
GREAVES'S BLUE LIAS LIME and CEMENT, direct from the works, Stockton.—BUTTY and VEREY beg to inform the Trade that they continue to supply Blue Lias Lime and Cement as usual at No. 2, Wharf, Paddington, only. Also Glaze Drain Pipes.—N.B. No other lime kept at the wharf.

GREAVES'S BLUE LIAS LIME and CEMENT.—AGENTS.
Messrs. Freeman and Richardson, 6, South-wharf, Paddington.
Mr. T. Wylie..... Liverpool.
Wm. and E. Knight ..... Manchester.
Mr. G. Brown ..... Glasgow.
Mr. J. Harrison ..... Chester.
Mr. E. Cryer ..... Oxford.
Gibbs, Cannings, and Co.'s Glazed Pipes, Bricks, &c.

GREY-STONE LIME.—HALL, Brothers, Mersham Lime Works, near Reigate, beg to offer to Builders and others a list of their prices for Cash on delivery.

Grey-Stone Lime	6s. 0d. per Yard, or 22 Bushels.		
Ditto, for Manure	4s. 0d.	ditto	ditto
Ditto, Ashes	1s. 6d.	ditto	ditto
Black ditto	3s. 0d.	ditto	ditto

In not less than Six Yard quantities, and put on the Railway for all goods stations on the London and Brighton, and South-Eastern Railways, or lines connected with them. A fresh supply hot from the kilns daily, at the Bricklayers' Arms and Croydon Stations, and delivered to all parts.
Prices for Cash on delivery:—7s. per yard at the stations or works; 8s. per yard delivered within five miles; in not less than 2-yard quantities. Booking, 2s. per yard; 1s. per yard off if paid monthly. Collecting charged for. The Quality is warranted to be the Best.—Address Mersham, near Reigate, Croydon; or Youl's-place, Old Kent-road.

ATKINSON'S CEMENT.—This Cement has hitherto been manufactured in Yorkshire, and, through long detention at sea, has often proved stale and unfit for use on its arrival in London. By the arrangement now made, the Cement will be manufactured in London, and thus presented to consumers in a fresh and genuine state, by the sole Agents, J. B. WHITE and SONS, Millbank-street, Westminster.

KEENE'S and PARIAN CEMENTS, for internal stucco, are employed very advantageously in place of wood for skirtings, architraves, and panel mouldings, and for in-door flooring, instead of stone. The peculiar properties of PARIAN Cement allow of its being painted or papered upon within a few hours of its application, and thus render it an important substitute for common plastering in those cases where expedition and beauty of finish are essential.—J. B. WHITE and SONS, Millbank-street, Westminster, Patentees of KEENE'S Cement, Licensees of PARIAN Cement.

PORTLAND CEMENT, as manufactured by J. B. WHITE and SONS, possesses all the properties of the best Roman Cement, but has the advantage over that material of wholly resisting frost. When used as a stucco it does not vegetate or turn green in damp situations, and requires no colouring. Employed as an hydraulic mortar for brickwork, it carries four to five measures of sand to one of cement, and is proved by trial to become harder and stronger in these proportions than Roman Cement with but one measure of sand. This superior connecting power, combined with its eminently hydraulic properties, point it out as the fittest material for building sea and embankment walls, the lining of reservoirs, cisterns, and baths, and for all those purposes where strength and a perfect resistance to water are required.
Manufacturers—J. B. WHITE and SONS, Millbank-street, Westminster, and 36, Seel-street, Liverpool.

PORTLAND CEMENT, solely MANUFACTURED by WILLIAM ASPDIN, Son of the Patentee.—Messrs. ROBINS, ASPDIN, and Co. request reference to No. 296, page 491; and also Nos. 284 and 283, pages 343 and 351 of "The Builder," for accounts of EXPERIMENTS on the strength of Portland Cements, whereby the great superiority of their Cement is manifest. This Cement has been proved for upwards of twenty years in the Thames Tunnel to resist the action of water; it is stronger in its cementitious qualities, harder, and more durable than any other description of Cement; it does not vegetate, oxydate, or turn green; nor is it affected by any atmospheric influence whatever the climate, resisting alike the action of frost and heat. It is manufactured to set in from five to sixty minutes. For all purposes that Cement is applicable the Proprietors challenge competition.—Orders received by Messrs. ROBINS, ASPDIN, and Company, at their Manufactory, Northfleet, Kent, and their Wharf, Great Scotland-yard, Whitehall; also at their Depôt, 45, Hanover-street, Liverpool.

BELL'S PATENT LIQUID CEMENT is ready for use, and only one-eighth the cost of oil-paint. For beauty it is pre-eminent, giving the exact appearance of FINE CUT STONE. Can be used at once on fresh Roman Cement, or any other plastering, and will protect the walls as well as Roman Cement. In casks of 1, 2, and 3 cwt., at 3s. 1½d. and 2½d., casks inclusive.
PATENT MINERAL PAINTS,
Invaluable for cheapness, beauty, and permanence: not half the cost of other paints, always ready for use, will keep good for years, and therefore well suited for exportation. Brilliant black, 2s.; rich browns, 2s. 9d.; greens and light colours, 4s. per gallon.
G. BELL and Co., 2, Wellington-street, Goswell-street.

THE PARIAN CEMENT, for INTERNAL STUCCO,
No. 4, Porchester-terrace North, Paddington,
15th February, 1850.
Dear Sirs,—I have been reluctant to speak to the merits of Parian Cement, until sufficient experience enabled me to do so. As an extensive builder I have given it many trials, and now beg to express my perfect satisfaction with it. The house from whence I date was first inhabited by me on 7th September last, not a brick having been laid before the 1st of June!—that is to say, in three months and one week! I stuccoed the walls throughout with Parian; papered some, painted and marbled others; and the whole work has been dry and perfect from that hour. I need say no more.—I am, Gentlemen, yours respectfully,
WM. SCANTLEBURY.
Messrs. Chas. Francis and Sons, Nine Elms.

MARTIN'S PATENT
FIRE-PROOF AND ORNAMENTAL CEMENT,
APPLICABLE FOR
ALL INTERNAL PURPOSES WHERE PLASTERING IS REQUIRED.
This invaluable Cement has now been before the public so many years, and obtained so high a standing in the estimation of all who have used it, that it is unnecessary to comment on its merits. Messrs. STEVENS and SON, however feel called upon to observe, that, from the greater extent of surface which a given quantity of MARTIN'S will cover, as compared with other Cements for internal use, there will be found a gain of 16½ per cent. in material, full 7 per cent. less in price, with an additional saving in labour of 10 per cent., by its allowing about forty minutes for working, being less than one-tenth of the time of other cements of a similar nature, therefore worked with greater facility, making together the enormous saving of full THIRTY-THREE PER CENT.; its advantages therefore cannot admit of doubt. Specimens, showing its beauty, hardness, and applicability to all plain and ornamental purposes, may be seen; and the Cement, in any quantity, obtained of Messrs. STEVENS and SON, at their Plaster and Cement Works, 186, Drury-lane, London.—Manufactory, Derwent Mill, Derby.
N.B. This Cement will receive paint or paper in a few hours after the completion of the work by the plasterers.

JOHNS and Co.'s PATENT PERMANENT STUCCO WASH, CEMENT, and PAINT.—The attention of the trade and the public generally is solicited to these very excellent and well-known materials, which, for their beauty, durability, imperviousness, and cheapness, are unequalled. THE PERMANENT WASH, as a substitute for common lime-wash or water-colour, is an article which has long been wanting for stucco and brick-work; it is of a stone colour, but may be tinted to any other; is perfectly dry in twenty-four hours; will not wash off; is very little dearer than the common washes; and, being a non-absorbent, is admirably adapted for railway stations, union workhouses, schools, barracks, prisons, &c. One cwt. is sufficient to cover, with two coats, 250 square yards. THE CEMENT, from the great reduction in price, and its suitableness for internal as well as external surfaces, places it above all other materials of its kind; it has no caustic qualities; may be painted or papered in a few days; never blisters, cracks, or vegetates; soon becomes as hard as stone; and may be cleaned with a brush and water. The merits of the PAINT are well known for its application to stucco work of all kinds, and external work generally. Numerous testimonials, prospectuses, and every information may be obtained, on application to the Sole Agent, PHILIP HARE, at the Warehouse, 22, Steel-yard, Upper Thames-street. A liberal allowance to wholesale dealers.

THE PATENT ARCHITECTURAL ROOFING TILES are strongly recommended as an improved system of roofing, and, from their extremely light and elegant appearance, are peculiarly adapted for covering Churches, Parsonage-houses, Schools, Ornamental and other Villas. A material feature of these Tiles is their economy; they are as cheap as ordinary slating, and do not require stronger timbers. Every information may be obtained by application to the Secretary, at the Offices, No. 158, Strand, where specimens of the Tiles may be seen.

SEALY'S PATENT TREBLE-CHAN- NELLED ROOFING TILES are manufactured and sold at SEALY'S PATENT TILE WORKS, BRIDGEWATER. For strength, durability, lightness, cheapness, and facility of repair it is unequalled.—N.B. Bricks and Tiles of every description. Each Tile is stamped "Sealy's Patent."

RED-FACING KILN BRICKS of supe- rior colour and quality are now ready for delivery at Croydon station, on the Dover Railway, at 36s. 6d. and at any station beyond towards London, and at the Bricklayers' Arms station, at 40s. per cask.—Apply to the Foreman of the Brick and Tile Works, Mersham, near Reigate, or to the proprietor at Bell-street, Reigate. Specimens may be seen at the office of "The Builder," 2, York-street, Covent-garden.

WARD and Co., HONDURAS WHARF, BANKSIDE, and JAMAICA COFFEE-HOUSE, CORNHILL, LONDON.
Fire Bricks, best, 65s. per thousand; Stock Bricks, 27s.; Country Pan Tiles, 50s.; Plain, 32s. 6d.; 12 and 9 in. Flooring ditto, very bright and red, Paving, Crown, and Circular Fire Bricks, Stourbridge, Newcastle, and Welsh Bricks; ditto Lumps, Tiles, Shield-guards, Pattern-goods; Clay, Loam, &c. of the best sort, and cheaper than any other house; Sand Ballast; Sanitary Pipes; Dutch and English Clinkers; Suffolk Facings, White and Red; Patent Malting Tiles, &c. Shipments to all parts of the world.

TO CONTRACTORS, BRICK MERCHANTS, BUILDERS, AND OTHERS.
MR. L. DAVIS having finished his make of BRICKS for this year, is about to make large alterations and extension in his fields, and is prepared to enter into CONTRACTS FOR ANY QUANTITY, not exceeding Twenty Millions, for the next year. L. D., in thanking the public for the large share of patronage he is receiving, solicits an inspection of his bricks, as, from his not allowing them to be sorted, it will be found his stocks at 24s. will make excellent face work, and many paving and sewer work; only two prices being made, viz. 18s. place, 24s. stock, and although it may be novel, it will be found to work well. Plumstead-road Brickfields are within a quarter of a mile of the river, free watergate, and may be put on board barges for 3s. per thousand, including all charges.—Offices, Powis-street, Woolwich.

BRICKS.—In consequence of the low price at which Brickmakers have, for some time past, been purchasing Ashes and Breese, H. DODD is enabled to offer his bricks, which are of good quality, at the following low prices; and as his fields are only a quarter of an hour's walk from the City, H. D. earnestly requests purchasers will favour him with a visit, in order to inspect his stock and to judge for themselves.

Marle Cutters.....	30s. per thousand.
Yellow Seconds.....	22s. 6d. "
Pale Seconds	30s. "
Paviors	42s. "
Pickings	36s. "

Marle Place, Half-washed Stocks, and Place Bricks, at equally low prices. These bricks are sound, well burnt, and unusually free from defects; a very large proportion of the Stocks being suitable for external facing. They will be delivered at the above prices anywhere within two miles of the fields.
Apply to HENRY DODD and Co., at the Counting-house, Horton Brickfields, Grange-walk, near the Rosemary Branch, Hoxton.
N.B. Red Pit Sand, of approved quality, constantly on sale, upon reasonable terms. In the erection of walls, where it is desirable that the work should be kept as free from damp as possible, this sand, from its not containing any saline matter, is acknowledged to be preferable to river sand.